

# PULP & PAPER

SEPTEMBER 1955

Views and news of new additions  
at Scott Detroit mill

see page 78

More about controversial "Guar-  
anteed Annual Wage" plans

see page 65

Nathan Bergstrom's own story of  
new coating process

see page 89

Mile-long  
conveyor  
takes chips  
from saw-  
mill to  
pulp mill

see  
page  
111

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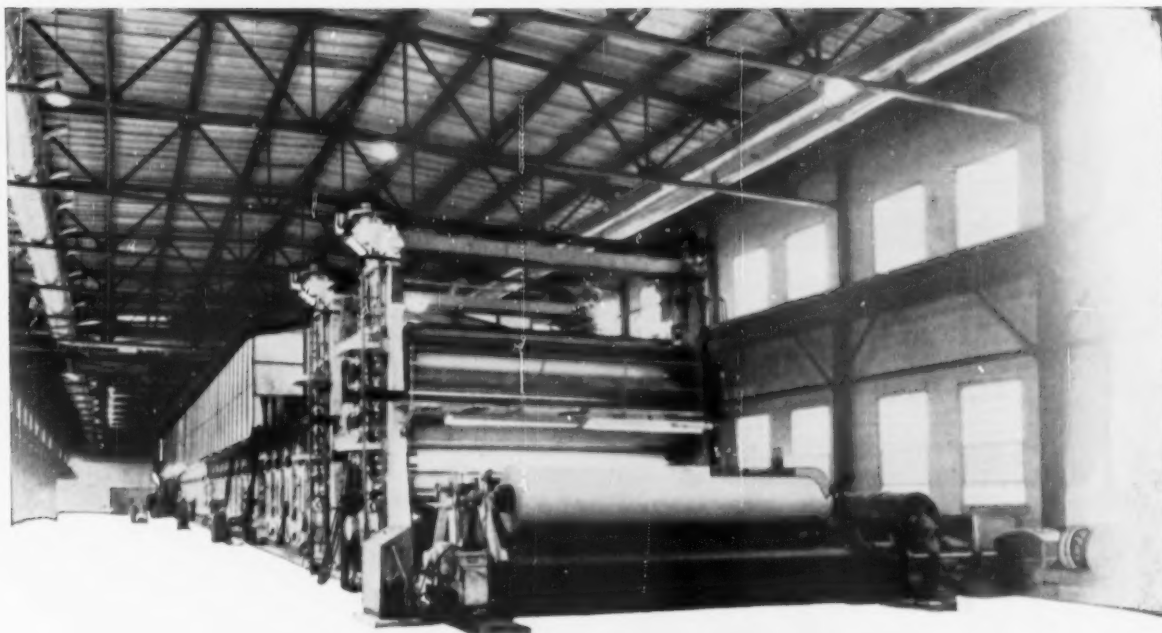
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# PULP & PAPER

Production and  
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Magazine  
of the Industry

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September 1955

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MILLER FREEMAN PUBLICATIONS

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## STRICTLY PERSONAL

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**Why Double Standard in Washington?**

Paper industry leaders have seen a personal friend and a man who has long been closely associated with them, subjected to a kind of public inquisitorial attack that left him no choice but to resign from a high government post.

If Congress is going to impose such strict scrutiny on every action and interest of business men called to government service, why not impose the same limitations on Congressmen?

It is well known in this industry that a certain Senator holds a very important financial interest in a major air line, and votes on measures affecting its relations with competitive lines. A Congressman who made a fortune in oil, led a fight to exclude imports of Venezuelan oil. Another is a principal supplier himself of army materials and does not hesitate to vote on measures affecting this interest.

Why the double standard in Washington? Why shouldn't these Senators and Congressmen divest themselves of their private holdings, or at least refrain from voting on matters affecting them?

**This Changing World**

The Alaska salmon industry, now declined to less than half its former \$100,000,000-a-year return, is retrenching sharply, trimming thousands off normal employment rolls. Unions feared they would be asked for wage cuts, but they weren't. They said other proposals had the effect of wage cuts.

At Ketchikan, where a street neon sign emblazons "Salmon Capital of the World," nearly every permanent resident is benefiting because of the new pulp mill, where production is even higher in 1955 than in 1954. And timber for a new mill in Juneau was being sold in late August, and for another near Sitka, perhaps, in November.

Fish, furs and gold were the "get-rich-quick" lures of the past. Now it is Alaska pulp and paper and the first permanent year-around industries of the vast territory, benefiting many more people in many more ways.

**Maybe There Should Be  
Several "Paper Weeks"**

Editorially, PULP & PAPER has urged that consideration be given to a Paper Week of national scope—a promotional week such as Cotton Week, etc., which are regular events in America and draw a lot of attention to the achievements of the industries which sponsor them.

Now along comes the Paper Mill Men's Club of Southern California, with a local Paper Week, calling attention in the populous Southern California area to the many uses of paper products.

They did it without spending a lot of money. They selected a queen to symbolize the week, they enlisted civic support, they placed stories in newspapers, they stimulated sales through retail outlets.

The success of the event was praised in a feature article in our contemporary, American Paper Merchant, and it told in detail how the club went about doing its big job.

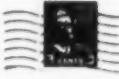

Getting hold of a mayoralty proclamation of Paper Week was a good stroke. The beauty queen was insurance of success. The officials and politicians eagerly climbed on the band wagon.

Many paper mill communities or big paper sales centers could hold Paper Weeks, with as much success as was

achieved in Los Angeles and that area.

If we can't have a National Paper Week for everyone, maybe we can at least start with some big regional ones.

Another idea might be to have big paper industry displays in some exhibit hall in New York City, for all the public to see, during the so-called "Paper Week" (a strictly industry affair itself) which is held annually in New York in February.



**The Editor**  
**PULP & PAPER**  
1791 Howard Street  
Chicago 26, Illinois

**READERS  
CORNER**

No anonymous letters will be considered but names may be withheld if desired.

**Who Wants Pine Waste?**

We have two of the largest millwork plants in the Middle West, both in Dubuque, Ia.

Do you know of any pulp mills which can use our ponderosa pine waste in the production of their products? Thus far this year we have shipped almost 350 cars of our wood waste. Would knots in any of this waste material be objectionable?

Our waste is short in length, 2 to 4 or 5 in.—a small proportion runs longer, 12 to 14 or 15 in.—too short, however, for our work. The waste is the result of cutting up kiln dried lumber. It is also surfaced two sides and the edges show clean ripped condition. We would surely be interested in getting in touch with anyone who could use our waste.

J. A. LOETSCHER

Chairman of the Board, Farley & Loetscher Mfg. Co.,  
Dubuque, Iowa.

**"An Excellent Job"**

I have read your WORLD REVIEW number and think you have done an excellent job. The many statistics you show in tabular form therein are extremely interesting. Is the information . . . regarding paper and pulp production throughout the world available from any one reference book, or did you compile it from many sources?

F. T. PETERSON

Executive Vice President, Black Clawson Co.

*Ed. Note:* Virtually all of our WORLD REVIEW statistics and information on paper and pulp production and consumption were gathered directly from many sources, and by many correspondents all over the world, and the complete data is not available elsewhere.

**Pulpwood Story Interests**

I read with great interest your illustrated article "The Operation at Bow" in the issue of February 1955 of the PULP & PAPER and would be very grateful if you could bring this Service in contact with the manufacturers of the Pettibone-Mulliken log truck and the Cary Lift.

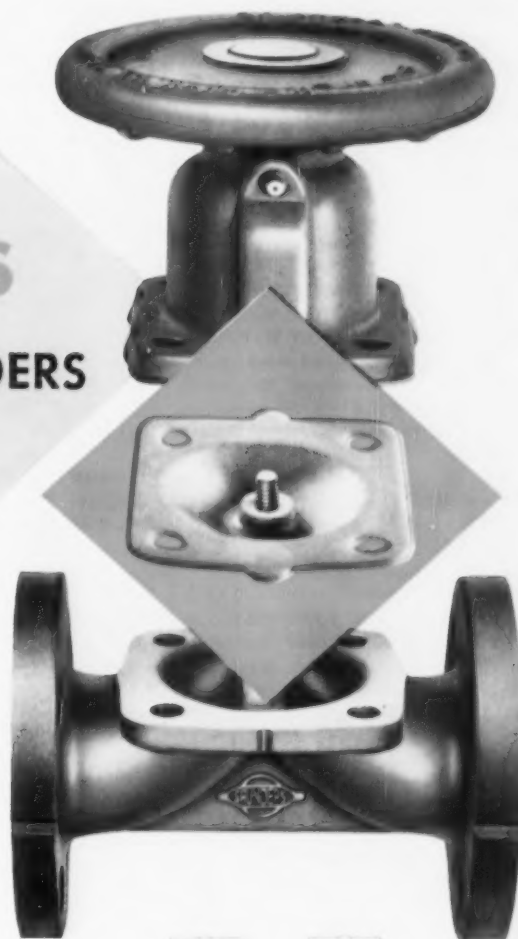
What interests me most regarding the operation described are the detailed technical data of the equipment mentioned above, if possible, together with the initial and operating costs.

A. R. ENTRICAN, Director of Forestry, New Zealand  
Forest Service, Wellington, N.Z.

Unaffected by all chemicals normally found in industry

# Teflon Diaphragms

for GRINNELL-SAUNDERS  
DIAPHRAGM  
VALVES

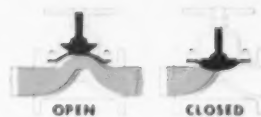


Having valve trouble? Are your chemical services so tough that valves disintegrate? Grinnell-Saunders Diaphragm Valves with TEFLON\* diaphragms may solve your problems.

Grinnell TEFLON diaphragms are made by a new and unique process which produces a better product of greater density, toughness and flex life. TEFLON offers a high degree of chemical inertness to all chemicals normally found in industry.

Grinnell-Saunders Diaphragm Valves are available with bodies of iron, bronze, stainless steel, cast steel, aluminum, Monel, Saran, Durimet; and with body linings of glass, lead, soft or hard rubber, neoprene, Saran. Diaphragm life depends on temperature, pressure, and frequency of operation. Your inquiries, which should be accompanied by complete service data, will receive prompt attention.

\*Registered Trade-Mark, E. I. du Pont de Nemours & Company, for its tetrafluoroethylene resin.



- Diaphragm lifts full height for streamlined flow in either direction
- Resilient diaphragm assures positive, leak-tight closure even with grit or scale in the line
- Diaphragm absolutely isolates working parts from fluid . . . sticking, clogging, contamination, corrosion eliminated
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- Simple maintenance. Diaphragm can be replaced easily without removing valve from line. No packing glands to demand attention. No metal-to-metal seats to become damaged or wire-drawn

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industrial supplies • Grinnell automatic sprinkler fire protection systems • Amco air conditioning systems

## NORTHEAST NEWS

### Ober Again Heads Group Gene Ward is Honored

**J. L. OBER**, vice president, Scott Paper Co., has been re-elected president of the U. of Maine Pulp & Paper Foundation. **W. E. PARSON**, president, Keyes Fibre Co., Waterville, Me., was elected vice president; **F. A. SODERBERG**, vice president, F. C. Huyck & Sons, Rensselaer, N.Y., vice president; **HENRY W. FALES**, vice president and general manager, St. Croix Paper Co., Woodland, Me., secretary; and **R. A. WILKINS**, vice president, Bird & Son, Inc., East Walpole, Mass., treasurer.

**GLEN AMOS** has retired from his duties with APPA, New York, and retired to Star Route M-35, Menominee, Mich. Says he would like to hear from friends.

**WILLIAM AUSTIN LEFTWICH**, recently second assistant chief chemist of International Paper's Natchez, Miss., mill, where he has worked since graduating from Tulane in 1950, is now in New York in technical sales for IP's Riordan Sales Corp., subsidiary.

**EUGENE WARD**, new national chairman of the Supts. Affiliates, was born in Brooklyn and attended N.Y.U., Hofstra College and Brooklyn Polytech, where he took pulp and paper technology, earning a b.s. degree. Now vice president and general sales mgr. of Cameron Machine, he has been with that firm for 19 years. He is married, has 3 children.

**ALBION W. (BRUD) WARREN** is new public relations manager of Brown Co., and editor of its monthly publication "Brown Bulletin" according to **A. E. HAROLD FAIR**, president. A native of Portsmouth, N.H., Mr. Warren has, since 1950, been part owner of Radio Station WERI at Westerly, R.I. He sold his interest there.

**WILLIAM C. FOSTER**, former deputy secretary of defense and president of the Manufacturing Chemist's Assn., Inc. has been named an executive vice president, Olin Mathieson Chemical Corp., according to **THOMAS S. NICHOLS**, president. He will headquarter in N.Y.

**WILLIAM L. PHARMER** has been appointed assistant sales manager, Electro Dynamic Div. of General Dynamics Corp., Bayonne, N.J., according to **DEAN W. PAUL**, sales manager.

**JAMES E. SMITH**, Albany Felt Co. asst. sales mgr., as secretary of the New York-Canadian Division of the Superintendents Association, announces the 1955 fall meeting of the division will be held Sept. 1-3 at Saranac Inn, Upper Saranac Lake, N.Y. The subjects for the technical papers, according to Mr. Smith, have been carefully selected and they will include information on new materials, techniques and developments.

**DONALD W. HONZA** assumes post of finishing supt., at the South Glens Falls, N.Y. mill of the Marinette Paper Co., subsidiary of Scott Paper Co. **FRED J. NEWHARD** is new technical director.

**LEROY J. BAUER** has been named sales engineer, Bauer Bros. Co. for New England. Although his name's the same, he is unrelated to any of the principals of the company. He has served in technical, supervisory and consultative capacities with pulp, paperboard and converting mills for 18 years.

**WILLIAM J. KENNY**, vice president, Bankers Trust Co., N.Y.C., has been elected a director of F. C. Huyck & Sons, Rensselaer, N.Y.

**CLINTON B. BURNETT** has been named general manager of the Johns-Manville Celite div., according to **A. R. FISHER**, president. He succeeds **ARTHUR S. ELSENBAST**, who retired. Mr. Burnett continues as vice president of Johns-Manville Products Corp.

**TOM SALB**, Bulkley Duntun Pulp Co., taught some of the hard facts of life to B-D vice president **DON KNIGHT** from Kalamazoo, Mich., when he fired a 41-38 at him for a total of 79 on a New York golf links, after accepting a spot of a stroke a hole. **REED PORTER**, Pulp Consumers' secretary, was a witness to the larceny.

## MIDDLE WEST NEWS

### Savage at Wis. Rapids; Klaus Announces Plans

**RICHARD L. SAVAGE**, coating chemist with St. Regis at Norfolk, N.Y., and recently at Kalamazoo, has joined the technical department coating development group, Consolidated Water Power & Paper Co., Wisconsin Rapids, as coating chemist, according to **GIL K. DICKERMAN**, technical director. Mr. Savage is a native of Syracuse.

**GUS KLAUS**, converting supt., Northern Paper Mills, says the Northland and



**Vaughan and Knight  
Become Vice Presidents**

**EDWARD B. VAUGHAN** (left) and **DONALD KNIGHT** (right) have been named Vice Presidents of Bulkley Duntun Pulp Co., according to Fred Enders, President. Mr. Vaughan joined Bulkley Duntun Pulp in 1945. Previously, he was with International Paper Co. Born in Mobile, he attended University of Alabama and entered this industry with IPC in 1932.

Mr. Knight, whose late father was a sales executive of Bulkley Duntun Pulp Co., joined the firm in 1946. After graduating from Dartmouth in 1941, he took marketing courses at Columbia and pulp and paper technology at University of Maine. During World War II he served as a Navy Lieutenant in the Pacific theater. Mr. Knight's headquarters are in Kalamazoo, Mich.

Beaumont Hotels in Green Bay, Wis., will cooperate to handle the arrangements and reservations for the Sept. 16-17 Northwestern Superintendents convention. Mr. Klaus is chairman, and suggests those attending take their choice of hotels.

**W. JAMES O'NEIL**, 57, operating coordinator in the Hammernill paper mill, Erie, Pa., died recently of a heart attack. He was with Hammernill since 1916.

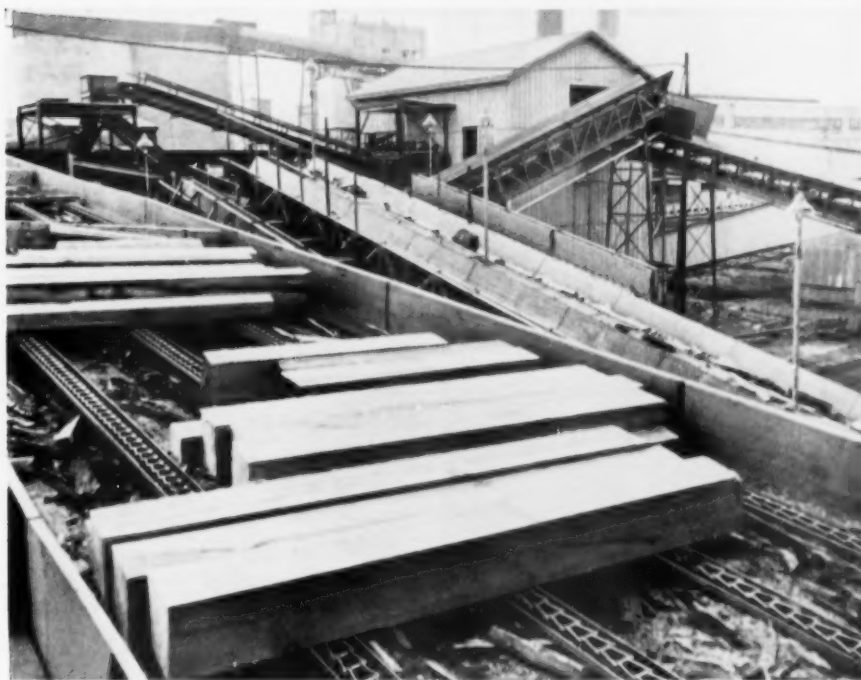
**ROBERT J. PFOTENHAUER** is new assistant secretary of Charmin Paper Mills. He is a graduate of Marquette, and has been with Charmin since 1950. He also holds positions as office manager and insurance manager. Charmin has two assistant secretaries.

**LEONARD TIMMER** has joined W. C. Hamilton division, Michigan Paper Co., Plainwell, Mich., after graduating from paper technology at Western Michigan College. Other paper school graduates at Kalamazoo include **ERNEST COWLES**, who went with Gardner Board & Carton; **LESTER BEEMAN**, who went with Ohio Box Board, and **DAVID FORSMAN**, who joined Rhinelander Paper. Over 50 freshmen have enrolled as new students in the WMC paper courses.

Continued on page 10



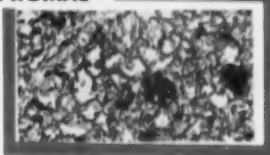
# Where conveyors must resist shock loads and abrasive wear, modern mills specify **PROMAL** chain



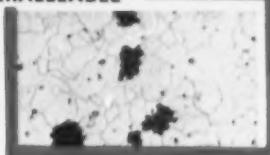
Link-Belt Class H Promal chain carries cants to chipping machine at kraft pulp mill.

Microphotos show the difference between ordinary malleable iron (bottom) and Promal. White areas represent soft metal. The black network structure indicates stronger, stiffer material, which acts as a reinforcement, preventing distortion under load and strengthening the material.

**PROMAL**



**MALLEABLE**



## Promal is a stronger, longer-wearing metal developed by LINK-BELT

WHEREVER you can economize by reducing conveyor shutdowns and minimizing replacements, it's worth your while to specifically request Promal chains. This specially-treated malleable iron is actually transformed into a metal of radically different physical properties, among them greater ultimate strength...higher yield point...exceptional fatigue resistance and a remarkable capacity to withstand abrasive wear. It can be repeatedly heated to a maximum of 1000° F. and cooled without affecting its physical properties.

Promal is far more than a partially annealed or skin-hardened iron. It maintains its properties permanently because of its uniform structure throughout. For unusual abrasive conditions, Promal chain may be furnished with file-hard surfaces. In paper mill applications—under continuous impact loads and abrasion—Promal means longer service, lower conveying costs.

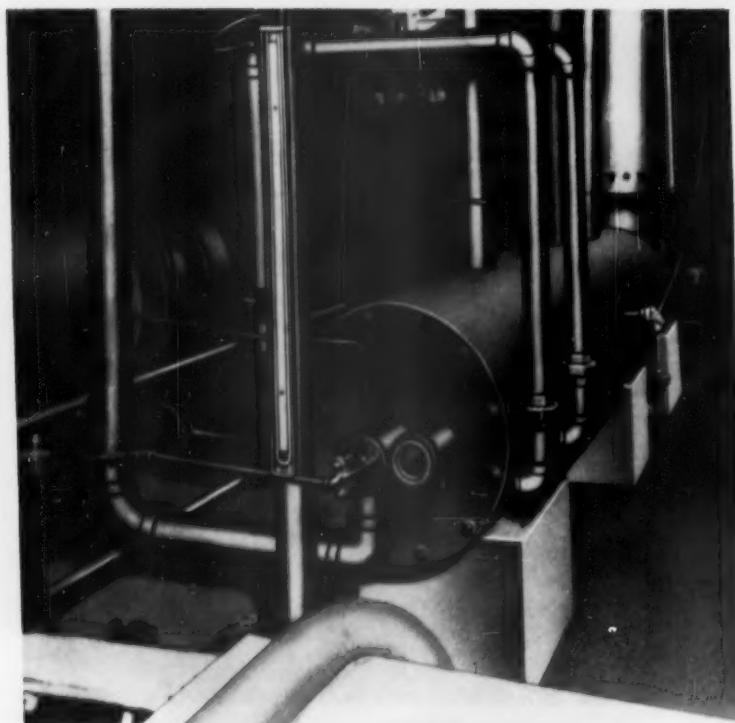
The complete Link-Belt chain line includes cast, combination, forged and fabricated types plus roller and silent chains. Also, a full selection of attachments permits the right arrangement to meet your needs exactly. Call your nearest Link-Belt office for a recommendation, or see your authorized stock-carrying distributor.

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CHAINS AND SPROCKETS

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock-Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarborough (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

## An Important New Development in Sulphur Burning . . .



Commercial installation of Chemipulp-KC 2½-ton sulphur burner. Note the compact design as compared with conventional burner shown in the background.

### **Chemipulp-KC** *Jet Type* **Sulphur Burner**

**More Compact—  
More Efficient**

**Handles Any Type  
of Sulphur**

**Long Life—  
Low Maintenance Costs**

**Fast Start-Up  
Instant Shut-Down**

In the new Chemipulp-KC Burner the molten sulphur is sprayed into the burner as a fine mist. The secondary heated air is then introduced in several stages, resulting in clean operation and long service life.

Because of the small mass, the burner quickly reaches its maximum efficiency temperature of 2100° F., minimizing the production of SO<sub>3</sub>. This burner operates efficiently at all SO<sub>2</sub> gas concentrations between 12% and 18½%. At its operating temperature of 2100° F. the bitumen in the dark sulphur is completely burned, so that dark sulphur as well as bright sulphur is efficiently burned. Shut-down is instantaneous.

This unusually compact unit is now available in capacities of 1, 2½, 5, 12, 15 and 25 tons per day, and each different size burner operates efficiently at loads of 25% to 150% of rated capacity. Both installation and maintenance costs of this new burner, which is a development of the KIMBERLY-CLARK CORPORATION Research Program, are considerably lower than rotary burners and combustion chambers of equal capacity.

### **Chemipulp Process Inc.**

Woolworth Bldg. Watertown, N. Y.

Associated with Chemipulp Process Ltd., 403 Crescent Bldg., Montreal



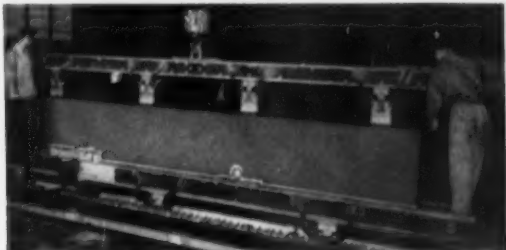
# LECTRO-CLAD Nickel Plated Steel

## Guards your product against contamination

Many product contamination problems are now being solved with CF&I LECTRO-CLAD. This new nickel plated steel is being used in many heavy industrial fabrications, such as tank cars, processing equipment, storage tanks, and many other containers for products that must be kept free of contamination or discoloration.

CF&I LECTRO-CLAD's contamination control properties compare very favorably with rolled nickel-clad steel or solid nickel; LECTRO-CLAD is much better in this respect than many of the protective coatings now used on steel.

These photographs illustrate some of the manufacturing and fabricating techniques used with CF&I LECTRO-CLAD.



After the steel-backing material has been carefully cleaned and inspected, the nickel plating is applied by the patented Bart Process. This consists of electro-depositing a .006" to .010" coating of pure nickel uniformly over a steel surface.



After plating, the material is subjected to rigorous adhesion flame tests and a 180° bending test (shown here). These tests assure that the nickel bond will not fail even if the material is subsequently worked beyond the failure point of the steel backing itself.



CF&I LECTRO-CLAD provides the only heavy industrial nickel plating that permits fabrication by standard steel shop procedures. Here, manual arc welding is being performed on the nickel side with no damage to the plating.



CF&I LECTRO-CLAD possesses excellent working properties for rolling, forming, flame cutting, shearing and pressbrake operations. No special equipment is needed. Extreme tension or compression during forming will not disturb the nickel bond.

CF&I is now producing LECTRO-CLAD in the form of plates, sheets, pipe, heads and fittings. For complete details, write for our new Technical Manual on LECTRO-CLAD Nickel Plated Steel.



## Claymont Steel Products

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New Orleans • New York • Oakland • Odessa • Oklahoma City • Philadelphia • Phoenix • Portland • Pueblo • Salt Lake City • San Francisco • Seattle • Spokane • Tulsa • Wichita

CANADIAN REPRESENTATIVES AT: Edmonton • Toronto • Vancouver • Winnipeg

Other Claymont Products... Stainless-Clad Plates • Carbon and Alloy Steel Plates • Flanged and Dished Heads • Manhole Fittings and Covers  
Large Diameter Welded Steel Pipe • Flame Cut Steel Plate Shapes



### MIDWEST NOTES

GEORGE H. PRINGLE, Mead v. p., recently presented the Geo. H. Mead Safety Trophy to the Chillicothe, O., Division, as having the best record among 12 Mead divisions, with 2.63 frequency. O. B. MASON, division mgr., and RALPH E. MYERS, safety director at Chillicothe, were recipients for the mill.

EDWARD A. JOHNSTON, former office mgr. at Int. Falls and in Minneapolis offices, is new treasurer of M & O Paper Co., Minneapolis, succeeding HADLAI A. HULL, who joined the Dayton Co., as its treasurer. Mr. Hull recently led an executive development seminar for American Management Assn. at Colgate U. ANGUS T. MORRISON is new secretary, and DONALD K. KASLOW, is comptroller, for M & O.



### New Waterbury Felt Men in Middle West

JOHN K. COPPENS (left) new Sales Representative for H. Waterbury & Sons Co., Oriskany, N. Y., covering Ill., Minn., and Wis. He has a bs in mechanical engineering from the U. of Me. and he and his wife will reside in Appleton.

FREDERICK W. KOPLOW, JR. (right), who has represented Waterbury in the Midwest in recent months, will now handle Ohio, Ind. and Mich. He is a Western Michigan College grad with a bs, has been with Sutherland Paper Co. and will make his home in Crooked Lane, Delton, Mich.

RALPH BECKER, supervisor in the bond dept., and EVERETT BROWN, tour supervisor in wax production, are among KVP Co. men who have rounded out 25 years with the Michigan mill.

ALBERT KALAR has been promoted to mechanical foreman, paper machines, at International Falls mill of M & O Paper. ARLO DENEEN is a new machinetender there, up from helper.

RUSSELL J. LEROUX, Weyerhaeuser pulp mills mgr. at Everett, and his wife enjoyed their first trip back to Wisconsin "old homes" in over four years.

### SOUTHERN NEWS

#### U.S. C. of C. Picks Porter, Joers; Scott's Schroder On Tour

EARL PORTER, manager of IP's Woodlands Division at Mobile, has been selected by U. S. Chamber of Commerce as a member of the Natural Resources Committee for 1955-1956. Also honored as one of 41 business leaders picked for the committee was PETER D. JOERS, vice president of Dierks Forest, Inc., at Hot Springs, a firm which has long considered entering the pulp-paper field.

A. J. "VEEP" SCHRODER, vice president of Scott and onetime personnel manager, recently swung south to Brunswick for a visit with President E. J. GAYNER, III, and a tour through the Brunswick Pulp & Paper Co.'s plant. Mr. Gayner's son, John, is now studying law at U. of Ca. where he is in the upper 5% of his class.

Continued on page 14

the END  
is only  
the  
beginning-

**SONOCO**  
PAPER MILL  
**CORES**  
with or without  
BERMICO Metal Ends.

### DURO RETURNABLE



The Bermico Metal End is the beginning of dependable strength, longer life and lower cost—and when combined with Sonoco DURO Cores, you have a paper carrier that can take abuse on high speed presses. DURO Cores also made without metal ends in sizes and strength to meet your needs. Economical RHINO non-returnable cores are supplied in all standard and special sizes. SONOCO specialty cores furnished from 1/4" to 36" I.D., and in lengths from 1/2" to 50', with smooth or rough surfaces. Plain or in solid colored stock, with special inside and outside wrap optional.

FREE CORE CATALOG—write today at no obligation!

#### ECONOMICAL CARRIERS FOR—

- Newsprint • Wax Paper • Cash Register and Adding Machine Paper
- Blue Print Paper • Fine Papers • Cellophane • Tapes
- OR any paper that can be wound on a core!

### SONOCO PRODUCTS COMPANY

MAIN OFFICE—HARTSVILLE, S. C.  
MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.  
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DEPENDABLE SOURCE OF SUPPLY

Since  
1899





## "Mersize RM Dry makes Groveton's entire mill operation more efficient."

—John Paugh, Mill Superintendent, Groveton Papers Co., Groveton, N. H.

Another great American papermaker, Groveton Papers Co., Groveton, N. H., producers of Triad fine-quality mimeograph bond and duplicator papers, has switched to Mersize RM Dry. Here's why:

"We realize a high efficiency throughout our plant with Mersize RM Dry," says Mill Superintendent John Paugh. "We have *substantially reduced costs and time* spent by adding Mersize RM Dry directly to the beater."

Murray Atkinson, Groveton's beater room foreman, reports: "Easy-to-handle Mersize RM Dry smooths out beater room operation. The men working with Mersize appreciate its *low dusting* and *non-irritating* qualities."

If you use dry size, check these other Mersize RM Dry advantages:

**Light color**—Mersize RM Dry is very light in color, resists darkening with age . . . produces high-brightness paper comparable to the lightest rosin size.

**Low foam**—Mersize RM Dry's low foam index helps eliminate countless production problems.

For full information on how Mersize RM Dry can make your mill process more efficient, write Organic Chemicals Division, MONSANTO CHEMICAL COMPANY, Box 478-L-7, St. Louis 1, Mo.

*Check list of Monsanto's complete line of fortified sizes:*

**Mersize CD-2**—Concentrate, for use with rosin size

**Mersize CD-2 Dry**—Concentrate in dry form

**Mersize RM 70%**—Complete fortified paste size

**Mersize RM 77%**—Complete fortified paste size

Mersize: Reg. U. S. Pat. Off.

**MONSANTO**  
CHEMICALS—PLASTICS

SERVING INDUSTRY WHICH SERVES MANKIND



You can see why

# SARAN LINED PIPE

GIVES LONG, TROUBLE-FREE SERVICE

**It's made of corrosion-resistant saran pipe swaged into steel for extra rigidity and strength . . . cuts downtime losses conveying corrosive liquids.**

Now you can convey chemicals and many other corrosive liquids without worrying about costly shutdowns due to corrosion. For saran lined pipe, fittings and valves are corrosion-resistant . . . form snug, leakproof joints . . . which won't burst up to 150 pounds working pressure.

They're easily and inexpensively installed because they can be cut and threaded in the field with any standard pipe fitter's tools. Their rigidity means that few supporting members are needed.

Saran lined pipe, fittings and valves have a proved record in industry of bringing long trouble-free service. If your operation requires superior resistance to most chemicals and solvents, be sure to investigate saran lined pipe. Contact the Saran Lined Pipe Company, 2415 Burdette Avenue, Ferndale 20, Michigan, Department SP527 E-2.

**RELATED SARAN PRODUCTS**—Saran rubber tank lining • Saran rubber molding stock • Saran tubing and fittings • Saran pipe and fittings.

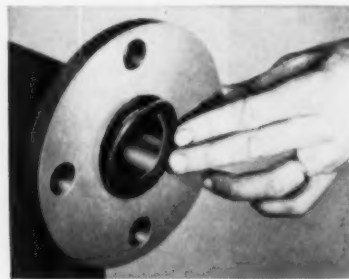
### Saran Lined Pipe Can Be Fabricated Right in the Field!



An adapted Beaver Cutter cuts away the end of the steel pipe so that  $\frac{1}{8}$ " of the saran lining is extended. This assures a tight seal after a flange is applied and connected with another flange.



A ratchet type thread cutter makes the standard threads after the Beaver Cutter has been used. A flange or union fitting is attached and tightened until the liner is flush with the fitting.



If two flanges, or a union fitting, are used to make a pipe connection then a full gasket is required. If a flange is made up against a flange fitting or spacer then a half gasket is required.

Saran Lined Pipe is Manufactured by  
The Dow Chemical Company, Midland, Michigan

*you can depend on* **DOW PLASTICS**





# WOOD PULP PAPER



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in 60 cities in the United States, Europe,  
Latin America, Africa, and Asia



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and STORRS & BEMENT COMPANY

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ORGANIZATION

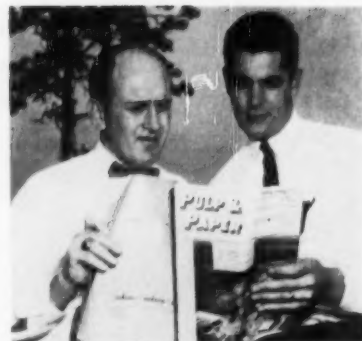
295 MADISON AVENUE, NEW YORK 17, N. Y.

### SOUTHERN NOTES

**DR. MALCOLM (MAC) MAY**, formerly of Champion Paper and Fibre, Pasadena, Tex., and now on the staff of the Institute of Paper Chemistry, isn't bragging too much to his former rebel bass-fishing associates about the blue gill he landed in Wisconsin. Reason: his catch weighed 1.375 lbs. (that's 623.7 grams). Being a Texan he refused to measure the catch anyway except between the eyes—1.5 in.

**LOUIS E. GATES**, assistant chief chemist at Champion Paper's Carolina Div., has been elected a director for the National Association of Credit Unions.

**PROF. C. E. LIBBY**, head of curriculum in Pulp and Paper Technology at North Carolina State, recently accepted a \$500 check from the first associate member in the Pulp and Paper Foundation, Inc., Dixie Cup Co. **EDGAR WINNE**, director of purchases for Dixie Cup, made the presentation.



"WELL, I'LL BE DOGGONED" seems to be expression of C. C. HENDRICKS (left), Salesman, Albany Felt Co., as he and WALTER D. WILLETTS, Service Engineer get their first look at story by colleague GEORGE E. FITCH, who wrote article on how felt engineer helps a superintendent in April issue of PULP & PAPER. Pair were photographed at St. Regis Paper Co.'s Jacksonville, Fla., mill by PULP & PAPER.

**CURLEY SINGLETON** reports to PULP & PAPER that he and his family (two girls and a boy now) are enjoying their comparatively new home at Box 113, Ocean Springs, Fla. Curley is Appleton Woolen Mill's Southern representative and is the brother of Gordon, manager at Brunswick. Curley and family moved from Calcasieu, La.

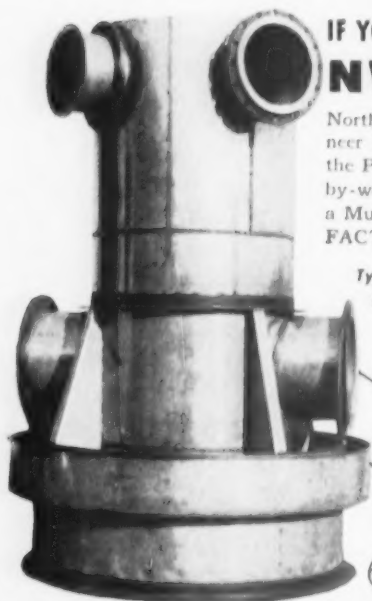
**J. H. "HERB" TALBERT** has been appointed to a newly-created position as sales manufacturing coordinator for the entire Southern Division of International Paper. Herb joined IP in 1927, served as purchasing agent at the Camden Mill from 1933 to 1935 and in 1939 was promoted to chief order clerk at Camden. He goes to International's headquarters at Mobile and is succeeded in Arkansas by JASPER B. "JAP" MORRIS, his assistant for the past several years.

We're glad to hear that **RICHARD STEWART**, IP power plant supervisor at Camden, is back on his feet and at work after being laid up in the hospital for a few days.

**JOHN STEVENSON**, management planner of Champion Paper & Fibre Co., is keeping his eye on tennis news as the Davis Cup matches approach. John has a special interest in the courts—he played basketball in high school with Tony Trabert, courtsman picked by many as a possibility to whip the Australians in the matches this year.

**J. HERSCHEL KEENER**, woods manager for Champion's Carolina Division, recently broke ground for a new Canton Central Methodist Church to be completed this fall. Mr. Keener was finance chairman of the project which raised an estimated \$140,000.

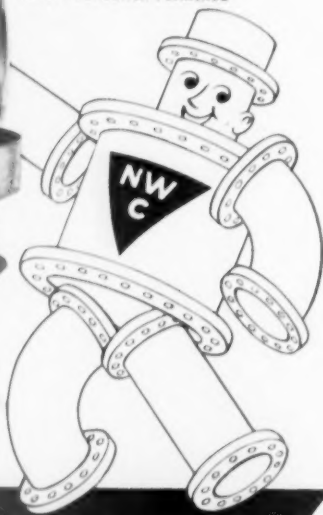
Continued on page 18



### IF YOU WANT IT FABRICATED NWC's YOUR MAN

Northwest Copper Works is the pioneer fabricator of Stainless Steel for the Paper Industry... SERVICE is a by-word... FOLLOW-THROUGH is a Must... GUARANTEED SATISFACTION means what it says.

Typical Illustration of Stainless Steel Fabrication Furnished



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- Stainless Steel Products
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- Lead Linings
- Lead Burning

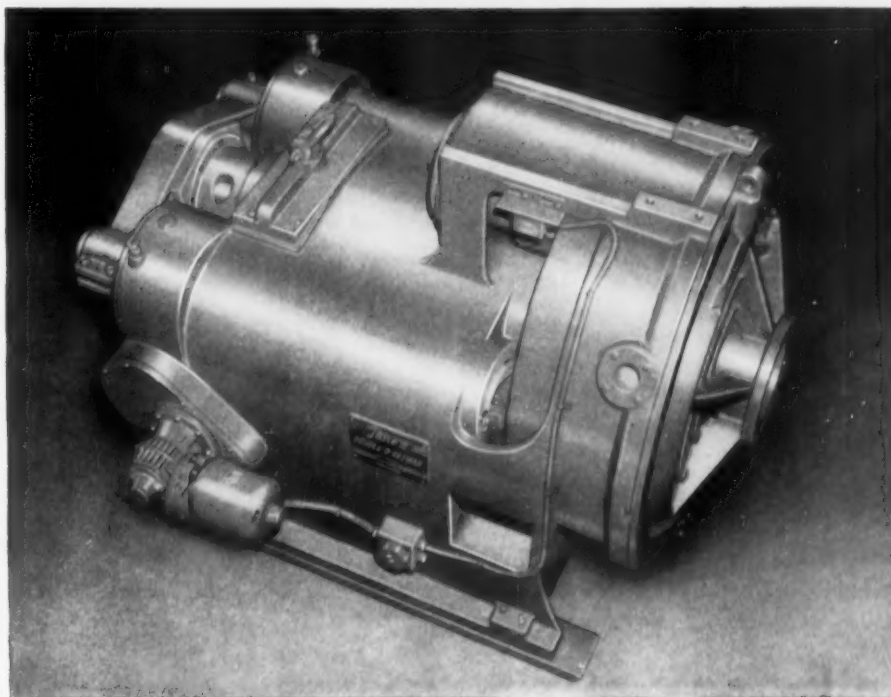
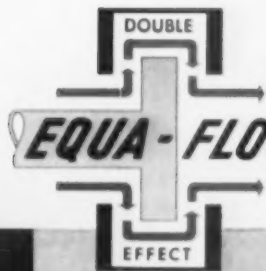
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**NORTHWEST  
COPPER  
WORKS**

# Jones

## DOUBLE-D WITH



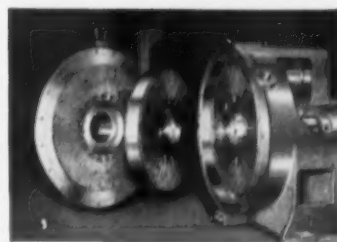
This overhead view illustrates the compactness of the Double-D. Very economical of floor space, it can be located and piped up in much the same manner as a conventional Jordan.

### Consistently does the work of two or more conventional refiners . . .

You're looking at the new Jones Double-D Refiner — clean-lined, compact, easy to operate, easy to maintain . . . and already setting performance records.

For the Double-D is a *proven* machine. Full-scale production units have been in operation in several mills for as long as 18 months — and in fact several mills have already re-ordered.

They report stock quality equal or better than any other refiners, with substantial savings in time, horsepower and floor-space. Ask your Jones representative for details or write for Bulletin No. EDJ-1083.



This "exploded" photograph shows the heart of the Double-D. Stock passing under constant pressure between two rotating and two stationary discs receives true two-pass refining . . . double effect.

**E. D. Jones & Sons Company**  
Pittsfield, Massachusetts  
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

# Jones

In Canada:  
The Alexander Ploch, Ltd., Ottawa





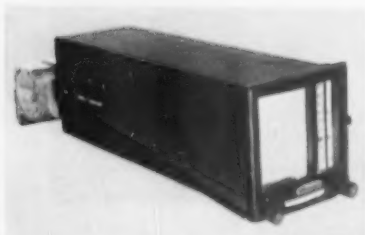
*complete process instrumentation*



Fischer & Porter's clean and easy-to-read Control Panel Board for the New York & Pennsylvania Company

## Perfection by Centralization of Product Instrumentation

*A complex problem resolved by F&P's integrated design  
and control instrumentation systems*



Send for details on the F&P Rato-graphic Pneumatic Recorder-Controller, offering 4-inch strip chart record. No obligation involved.

The New York & Pennsylvania Co., maker of fine book and specialty papers, was faced with converting its Johnsonburg, Pa., mill from batch-type stock preparation to one of continuous automatic stock preparation. This involved simultaneously integrating into a centralized control station five separate blending systems with a complete refiner control unit feeding five separate paper machines.

F&P, with its comprehensive design and engineering know-how, ex-

ecuted this conversion efficiently and completely. Costs were kept at a minimum because a complete unit was delivered by one team. All instruments and fabrication are of F&P design and manufacture, and therefore of perfectly matched components. Stock is measured and controlled by F&P Ratosleeve Meters and F&P Ratogate Valves, specifically designed for this industry.

Write F&P today telling about your problems or needs—without obligation.

### FISCHER & PORTER COMPANY

COUNTY LINE ROAD • HATBORO 10, PA.

Measuring, recording and controlling instruments  
Centralized control systems  
Data reduction and automation systems  
Chlorination equipment  
Industrial glass products

*Sales offices in 32 American cities and in principal cities abroad*



If you are in  
**PAPER...**



...Look at **A-C\* Polyethylene**

**emulsions      hot melts**

A-C POLYETHYLENE is "in" in the paper industry! Manufacturers and converters alike are using these unique polymers in both emulsions and hot melt applications.

**Right now—**

Paper makers are trying A-C POLYETHYLENE emulsions in the beater and as a pour-on at the calender stack.

Converters not only improve scuff resistance with it, get increased and retained gloss at higher temperatures, but thanks to A-C POLYETHYLENE-fortified coatings, they are coming up with outer wraps for frozen food cartons that seal, stay glossy, and resist cracking at low temperatures.

**An interesting possibility—**

By working together, paper makers and

converters may upgrade sheets—prior to converting—with emulsifiable A-C POLYETHYLENE. Then, by altering the coating weight of the hot melt, new grades, new finishes, new papers might result.

**On your sheet and in your sheet—**

A-C POLYETHYLENE is easy to handle, easy to use on your present equipment. You can add it as an ingredient in your paper, apply it as a coating.

**Test in your own plant—**

If you are in any phase of paper—from pulp to the creation of functional packages—look at A-C POLYETHYLENE. When writing us for samples and technical literature, please specify your intended use. It helps us give you the proper information.



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ALLIED CHEMICAL & DYE CORPORATION

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## STRICTLY PERSONAL

### SOUTHERN NOTES

**MIKE KOUREY**, community-industrial relations director of Champion Paper & Fibre Co.'s Texas Div., recently winged out to Pasadena (California, that is) to make plans for the Texas city of the same name to enter a float in next year's New Year's Day Tournament of Roses. Mike is a member of the Pasadena, Tex., Chamber of Commerce special events committee.

And while at Champion, we can't help wondering just what the qualifications were for Night Superintendent **CHARLIE HAYES'** membership in the Coon-Eating Society of No. 9 and 10 Paper Machines at the Ohio Division. How many coons did you have to eat, Charlie?

**HENRY VRANIAN** is new vice pres. and sales mgr. of The Chesapeake Corp., West Point, Va.

**LAWRENCE F. CROWDER**, former general supt., Rome Kraft Co., Rome, Ga., has joined St. Regis Paper Co., Jacksonville, Fla., as staff project engineer. He will assist vice president **JUSTIN McCARTHY**, St. Regis chief engineer.

### PACIFIC COAST NEWS Bill Marshall Honored; New Weyerhaeuser Engineers

**W. C. MARSHALL**, Pacific Coast representative of American Cyanamid Co., Dyestuff Department, Portland, Ore., has been named to national Superintendents Assn.'s affiliates committee.

**WILSON B. CATHCART**, for two years Pacific Northwest technical sales representative of Electro Chemicals department of Du Pont with offices in Portland, Ore., has transferred to head office in Wilmington as sales supervisor Peroxygen Products Divis. of Electro Chemicals Dept., E. I. du Pont de Nemours & Co., Inc. **LOUIS BLIGHT** succeeds Mr. Cathcart on the Pacific Coast.

**BOB QUICK**, who recently obtained a ph.d. at Institute of Paper Chemistry, has joined Weyerhaeuser Pulp at Longview as project chemist and **HARRY BROWN**, with master's in chemistry from U. of Portland and previously with Van Waters & Rogers soap plant in Tacoma, also joined the Longview operations as project chemist.

**A. S. HAMMOND**, general manager of Industrial Products Divis., Crown Z, North Portland, Ore., has retired after nearly 36 years service with CZ and affiliates.

**J. D. CUMMINGS**, formerly assistant superintendent, became San Leandro, Calif., converting plant superintendent, when **W. C. GIGLER** went to Vancouver, B.C., to manage new converting operations there for CZ Canada.

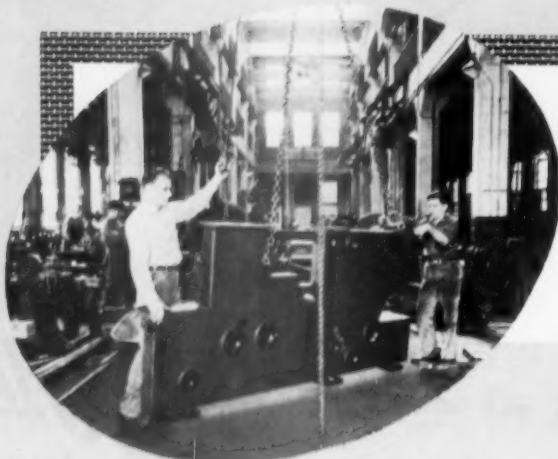
**H. S. BOYD**, formerly a maintenance foreman, is now maintenance supt. at Fibreboard, Pt. Angeles, Wash. **BERT ADAMS**, yard foreman, retired earlier this year, and has been succeeded by **GEORGE BENSON**, former heater engineer.

CZ, Port Townsend, Wash.'s first golf tournament was won by **DICK HAUSMANN**, accountant, with low gross; tied for low net were **JIM CALDWELL**, recovery operator and **CLAUDE MAULDING**, tour boss.

**FRANCIS FLYNN**, asst. resident manager, CZ's kraft mill at Pt. Townsend, Wash., is a vice president of the county boy scout council.

Continued on page 22

## "From ingot to fourdrinier wire"



### HAIRSPRING ACCURACY — BRIDGE-BEAM SIZE

Our machine shop doesn't make hairsprings or bridge beams, but our maintenance and construction operations demand equal versatility from our men and machines. Hub of an integrated operation such as ours, its skilled personnel are ready to machine a part to a fraction of a thousandth of an inch, on a tiny instrument part or a huge loom frame.

Because our plant is completely integrated, every wire we ship has undergone thorough and continual analysis, control and testing from the raw metals to your finished fourdrinier wire ready for quality paper production.

We are proud to say they are truly ours — "from ingot to fourdrinier wire."

**EASTWOOD-NEALLEY CORPORATION**  
Belleville, N. J.

# POWELL RIVER UNBLEACHED SULPHITE PULP



★STRENGTH

★COLOR

★CLEANLINESS

★SERVICE

★DEPENDABLE SUPPLY

★ **POWELL RIVER SALES COMPANY LIMITED**  
904 STANDARD BUILDING VANCOUVER, B. C.

## Here's a real acid test!

3,000 feet of U. S. Uscolite Pipe unharmed after 2 years' steady drinking of acid

Section of three U.S. Uscolite Pipes in color mixing section of wallpaper plant. The pipes carry corrosive solution for fixing the print on wallpaper.



Uscolite pipe and fittings are made in the broadest and largest line of stock sizes on the market. Sizes run from 1/2" to 6".

A wallpaper plant in Illinois changed ideas about piping when U. S. Uscolite® Pipe was installed in the two pipe lines that handle corrosive materials. (One line handles a corrosive solution used to fix the print on the wallpaper; the other handles 10% hydrochloric acid dye solution.)

Before Uscolite was put in, the piping in the plant lasted about 3 1/2 years. But U. S. Uscolite, 3,000 feet in all, has so far been on the job 4 years—with no deterioration whatever. Moreover, the Uscolite piping is exposed to accidental knocks and physical abuse all along the line, yet its high impact strength protects it from harm. Based on its present performance, it looks like it will last for years and years.

A product of United States Rubber Company, Uscolite piping is, despite its strength, very light in weight. It resists, inside and out, the corrosive action of acids, salts, alkalis and fumes. A complete line of pipe, fittings and Uscolite (Hills-McCanna) valves is available for any and all piping problems.

Rid yourself of any problems in carrying corrosive materials; get in touch with any of the 27 "U. S." District Sales Offices, or write address below.



*"U.S." Research perfects it... "U.S." Production builds it... U.S. Industry depends on it.*

**UNITED STATES RUBBER COMPANY**

**MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.**

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe and Fittings • Grinding Wheels • Packings • Tapes  
Molded and Extruded Rubber and Plastic Products • Protective Linings and Coatings • Conductive Rubber • Adhesives • Roll Coverings • Mats and Matting



*These Drops Tell the Story:*

# ACID, WATER, OR ALKALI... IT'S ALL THE SAME TO AQUAPEL®

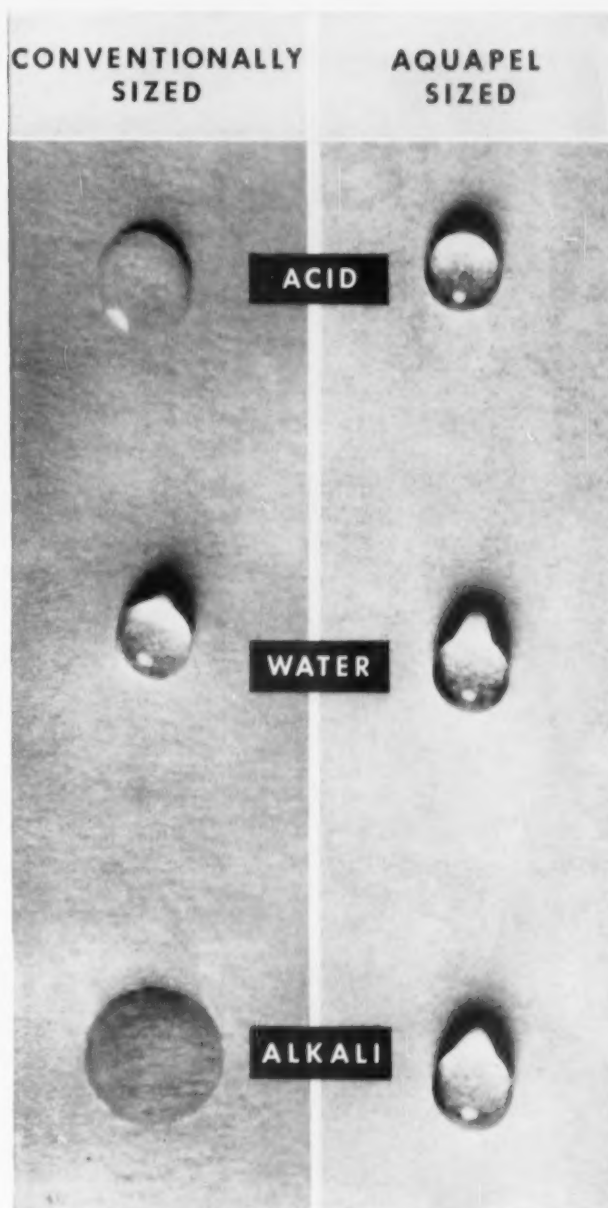


Hercules Aquapel is a new concept in sizing for the paper industry. It's not a resin, not a wax, but a chemical compound that reacts with cellulose fibers to form a surface that resists the penetration of acid, water, or alkali. Aquapel is not "stuck on" like conventional size. It becomes an integral part of the fiber.

While it is usually applied on the surface, Aquapel is not a surface size in the usual sense because it replaces rather than supplements beater sizing with rosin size and alum. And Aquapel is surprisingly economical because a little goes a long way. Two to six pounds of Aquapel per ton of fiber will provide hard sizing over a wide pH range.

For information on Aquapel application in making paper and board suitable for many diversified end uses, write:

*Paper Makers Chemical Department*  
**HERCULES POWDER COMPANY**  
*965 King St., Wilmington 99, Del.*



**AQUAPEL MAKES THE DIFFERENCE**—Everything about this test was identical except the sizing. Aquapel repels acid, water and alkali.

### PACIFIC COAST NOTES

**NEWTON BETTS** and **LEROY HERN- DON** have joined Weyerhaeuser Pulp Div. engineering department at Longview, according to Plant Engr. **D. G. FELTHOUS**. Mr. Betts received m.e. degree at U. of Wash. in 1952 and has since been with Long-Bell Lumber Co. developments. Mr. Herndon received his m.e. last March at Oregon State.

**ROBERT S. GLASS**, previously assistant manager in charge of operations, Western Gummed & Coated Products Div., Crown Z, North Portland, Ore., has been named manager of both North Portland and Los Angeles plants.

**FRANK BECCA**, chemist in technical control, CZ, Pt. Townsend, has resigned to become plant manager of the Pacific Glue Co., Stockton, Calif.



### In Pacific Coast News

**PAUL F. PETERSON** (left) Staff Assistant at Simpson Paper Co., Everett, Wash., has assumed added duties as Comptroller, announces **DONALD F. McCALL**, V. P. & Gen. Mgr. Mr. Peterson, who has been with the organization in an executive capacity since 1937, handles purchasing, personnel and labor relations.

**HAROLD M. GOWING** (right) for two years Personnel and Safety Supervisor for the city of Portland, Ore., has been appointed Manager of Electric Steel Foundry Co.'s newly created Public Relations Dept. He is widely experienced in developing job training programs and has participated in public service work in the Northwest and at national levels.

**JAMES W. HOLMES**, production planning, CZ Headquarters, San Francisco, has been promoted from supervisor to assistant manager. **HOWARD M. GREEN**, formerly supervisor of Camas production planning, succeeds Mr. Holmes as supervisor. **FRANK J. MANDIC** has become supervisor at Camas.

**C. EDWARD TAYLOR**, recently named technical assistant to pulpmill superintendent, St. Helens Pulp & Paper Co., was formerly assistant to papermill superintendent, CZ Port Townsend.

**EUGENE A. BREYMAN**, executive vice president of Zellerbach Paper Co., took early retirement Aug. 1 after 35 years with the organization. He intends to become active in the consultant field.

**DALE HOLCOMB** has returned from San Francisco office of Fibreboard to become office manager at Port Angeles, Wash. He replaces **K. S. GARRETT**, who has moved to Vernon, Calif., to replace **A. E. PODMORE** as office manager.

**ED DEAL**, asst. office manager, CZ, Pt. Townsend, Wash., has transferred to St. Helens P&P in the same capacity. **ROBT. CALL** has been promoted to succeed him.

**C. H. (SNAG) DUNN**, long paper mill supt. at Fibreboard's East Antioch, Calif., mill, has resigned to accept a position as supt. of the new board machine being installed at Crossett Paper Mill, Crossett, Ark.

Continued on page 26

# TRONA<sup>®</sup>

## SALT CAKE

FOR  
QUALITY KRAFT  
PRODUCTION

TRONA, long the largest basic source of natural sodium sulphate ( $\text{Na}_2\text{SO}_4$ ) continues to produce highest purity uniform grade Salt Cake, to keep pace with the expanding kraft paper industry. You can be sure, when you specify TRONA, of an adequate and dependable source of supply for this essential ingredient in quality kraft production.

## American Potash & Chemical Corporation

Offices • 3030 West Sixth Street,  
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99 Park Ave., New York 16, New York

Plants • Trona and Los Angeles, California



**MEAD PULP SALES, INC. • Distributors of Wood Pulp**

BLEACHED AND UNBLEACHED CHEMICAL AND MECHANICAL WOOD PULP

118 West First Street, Dayton 2 • 230 Park Avenue, New York 17 • 20 North Wacker Drive, Chicago 6



When Paul Bunyan learned how many forest fires were caused by lightning, he made it a practice to push out to sea every thunderhead that formed over the Great Northwest.

*This is the eighty-fourth incident from the fabulous life of Paul Bunyan. Reproductions are available on request.*



**gives you**

**a "turn-key" job...**

***a complete recausticizing system***

In planning your plant improvement program, the most economical method is to select one competent, reliable supplier for your equipment.

With Graver as your source for recausticizing equipment, you will gain the benefits of Graver design...Graver engineering...Graver fabrication...Graver field-erection.

No other fabricator is better prepared to give as complete and as efficient a turn-key job.



***... serving the process industries***

**Slakers  
Classifiers  
Liquor Clarifiers  
Dreg Washers  
Causticizing Tanks  
Lime Mud Washers  
Storage Tanks  
Filters**

**GRAVER TANK & MFG. CO., INC.**

***East Chicago, Indiana***

**CHICAGO • NEW YORK • PHILADELPHIA • EDGE MOOR, DEL. • CATASAUQUA, PA. • PITTSBURGH  
CLEVELAND • DETROIT • TULSA • SAND SPRINGS, OKLA. • HOUSTON • ODESSA, TEXAS • CASPER,  
WYO. • LOS ANGELES • FONTANA, CAL. • SAN FRANCISCO**



# DOWNINGTOWN

*Celebrates their*

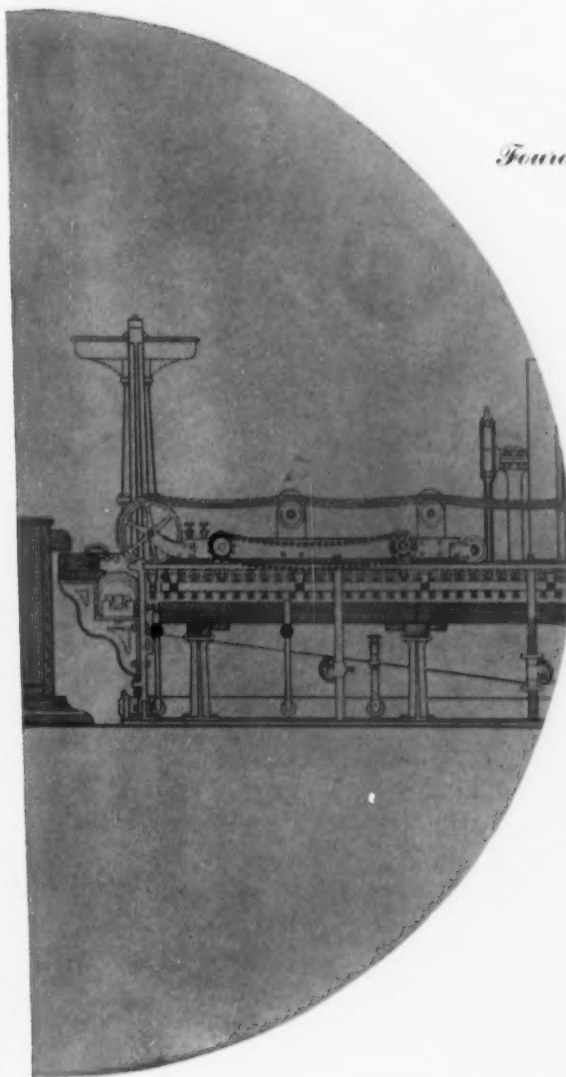
## 75

*Years of Progress*

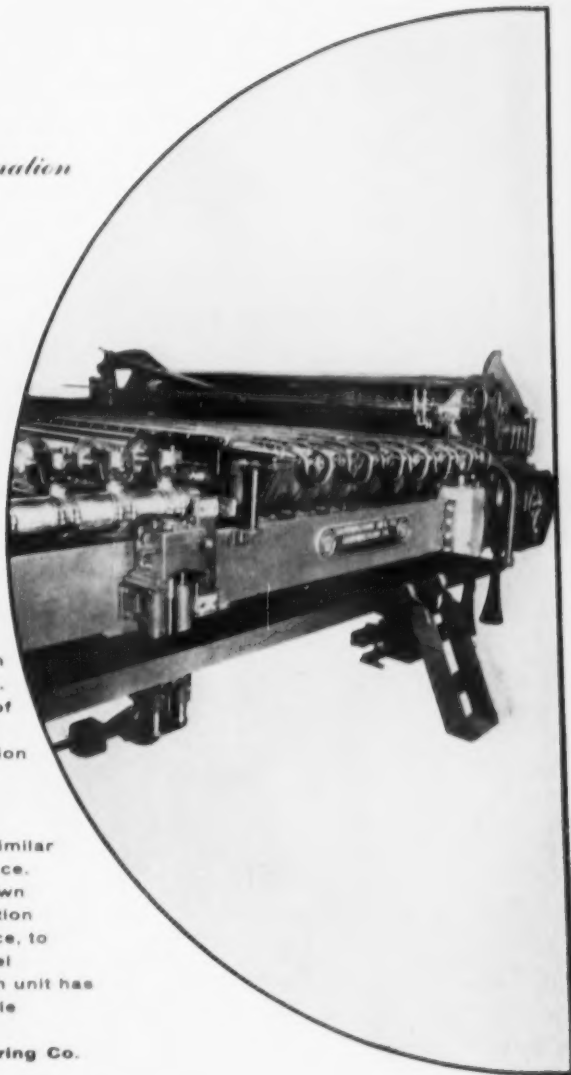
IN

*Fourdriniers for Sheet Formation*

1780 • 1955



About 1805 the Fourdriniers proved that their machine produced paper at a cost almost 75% less than that of hand made papers. Throughout the industry of that period, their "design leadership" won recognition and acceptance. For seventy-five years Downingtown's "design leadership" has earned similar recognition and acceptance. From the first Downingtown Fourdrinier, still in operation after sixty years of service, to the modern stainless steel Fourdrinier, at right, each unit has in its day been an example of this leadership. Downingtown Manufacturing Co. Downingtown, Pa.



# DOWNINGTOWN

DESIGNERS AND BUILDERS OF PAPER, BOARD AND FELT MACHINES

## 75<sup>th</sup> year

West Coast Subsidiary:  
MONARCH FORGE & MACHINE WORKS, INC.  
Portland 10, Oregon

Representatives: UNITED STATES MACHINERY CO., INC., 90 Broad St., New York 4, N.Y., JOHN V. ROSLUND, Pacific Bldg., Portland 4, Ore., THE EMERSON MFG. CO., Lawrence, Mass., ROEBLING WATERGUS, LTD., Brantford, Ont., Can.

## STRICTLY PERSONAL

### CANADIAN NEWS

#### Plant Represents Dominion; New Gen. Mgr. at Donnacona

**GEORGE PLANT**, of the Montreal staff of Dominion Engineering Co., has been appointed manager of the company's Vancouver, B.C., office. **A. C. R. YUILL**, who has been representing the company in Western Canada for years, continues in his consulting capacity.

**L. A. PALMER**, formerly vice president and mill manager, Donnacona Paper Co., in Quebec, has been appointed general manager.

**ANDREA GALVANI**, 33-year-old son of one of Italy's leading paper makers, visited Vancouver recently with **RAF-**

**FAELE PIZZA**, lumberman from Por Denone. Sr. Galvani's family has been in the paper business for 300 years and buys bleached sulfate pulp from the Pacific coast.

**A. B. HUFFMAN** has been appointed to the new position of manager of new product sales and development for Crown Zellerbach Canada in Vancouver.

**J. GORDON CHALMERS**, vice president and director, Bathurst Power & Paper Co., has been made an honorary doctor of science by Sacred Heart University, Bathurst, N.B.

**W. H. AIRD** has been appointed vice president in charge of sales, Alliance Paper Co. **G. E. WILSON** is vice presi-

dent in charge of operations, and **H. E. KERBERG** is the new staff assistant to the president.

**LOU MONCINI**, formerly of Crown Zellerbach central engineering in Seattle, has joined the C-Z Canada organization as chief engineer in Vancouver, B.C.

**DAVID E. GRAHAM** is the new manager of the woodlands division, Great Lakes Paper Co., with **ROY S. YOUNG** as assistant.

**R. A. HALLONQUIST** has succeeded **T. S. JONES** as secretary-treasurer of the Ontario Timber Operators Association, Mr. Jones having been recently appointed manager of industrial relations for Dryden Paper Co.

**DR. OTTO MAASS**, with Pulp and Paper Research Institute of Canada for several years, has resigned to become principal research officer for the National Research Council in Ottawa.

Let us put the **SQUEEZE**  
ON HIGH EVAPORATING COSTS!

... and give you assured results, too!

From start to finish, Swenson offers much more than the equipment alone. You can get preliminary product research and testing in the Swenson laboratory... evaporators that are custom-engineered for your products... surveillance of operation and periodic checks after installation.

Swenson engineers, with over 65 years of experience, will counsel with you about economy, capacity, construction and operation of long-tube evaporators, forced circulation and other types.

You can carry economy into other parts of your operations by including Swenson pulp washing, heat recovery and filtering, too. Take this step toward greater savings and efficiency by writing for your copy of the Swenson catalog.

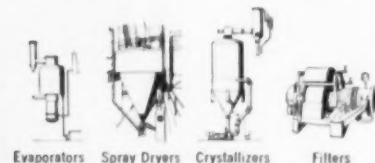


# SWENSON

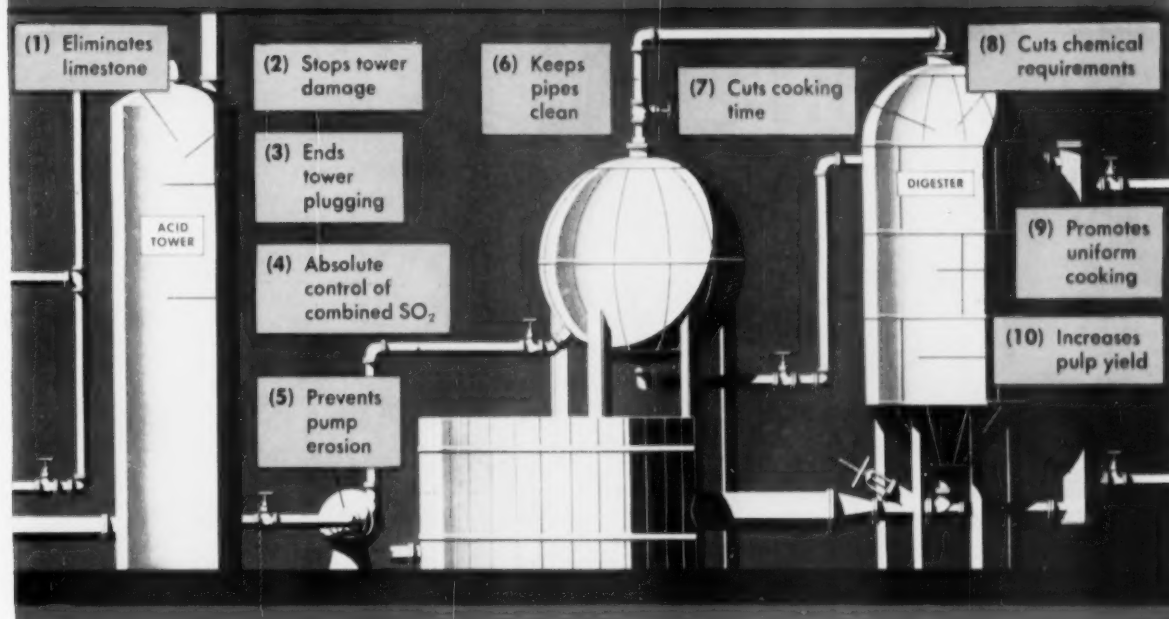
Proved Engineering for the Process Industries  
SINCE 1889



**SWENSON EVAPORATOR CO.**  
15632 Lathrop Avenue, Harvey, Illinois



## 10 Ways Ammonium Bisulphite Pulping Can Help Increase Your Pulp Mill Profits:



Here's how Spencer Anhydrous Ammonia saves time, cuts costs and increases yields. Read how this quicker, cleaner, better method of pulping can benefit your mill:

It is generally agreed that ammonium bisulphite pulping offers many advantages. Ten of these advantages are shown above. Now, let's look at what some of these advantages can mean to you:

In the first place, Spencer Anhydrous Ammonia ends the need for stone handling. This reduces labor costs and, at the same time, stops damage formerly caused by dumping stone into the acid tower.

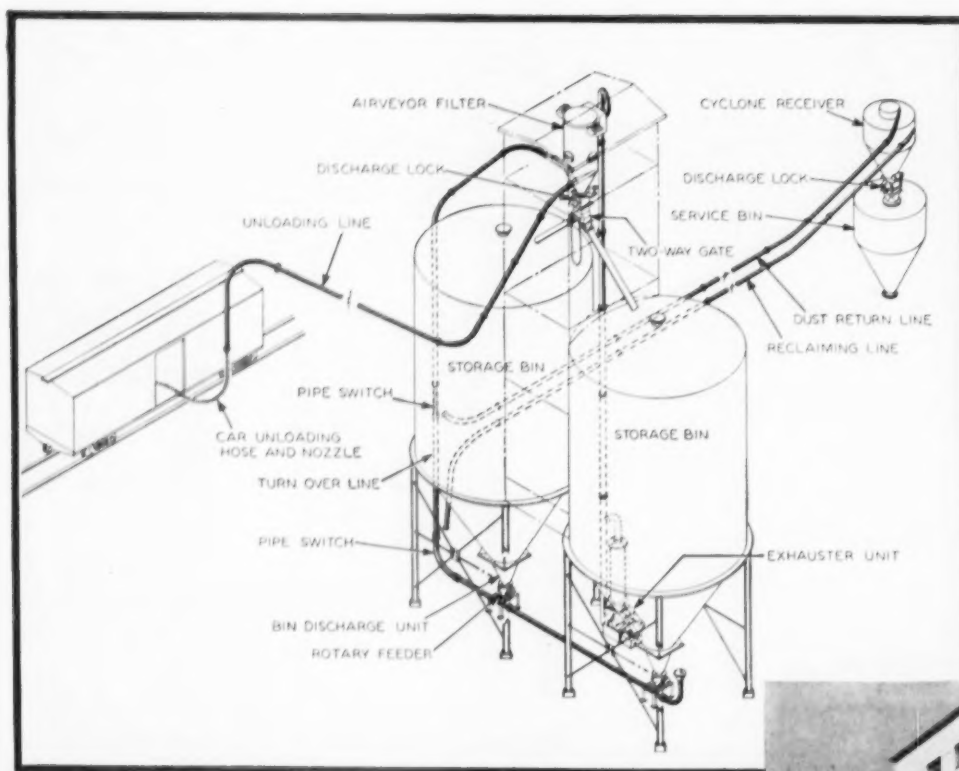
Pipes are cleaned, not clogged, by ammonium bisulphite acid. With ammonia base, absolute control of combined  $\text{SO}_2$  is accomplished by the mere twist of a valve.

Ammonia cooking liquor penetrates more rapidly, allowing shorter cooking cycles, lower temperatures and more uniform operation. Pulp yield per cord of wood is increased, and chemical requirements are decreased. Also, ammonium bisulphite is adaptable to the pulping of hardwoods.

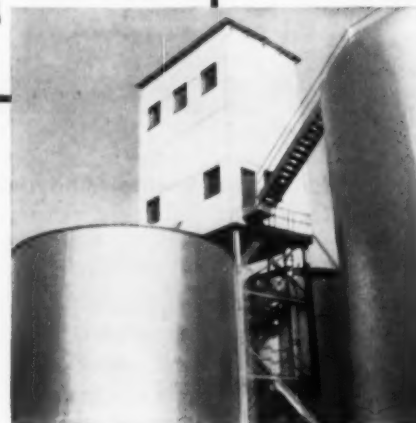
Why not set up a test run, and prove in your own plant the benefits of this pulping process? Our Technical Service Staff will be glad to provide you with technical assistance. Just write: Technical Service Section, Spencer Chemical Company, Dwight Building, Kansas City 5, Missouri.



AMERICA'S GROWING NAME IN CHEMICALS



## <sup>TRA</sup>**AIRVEYOR** does triple duty at Ketchikan Pulp Company's Ward Cove Plant



Again, this time away up in Alaska, the Airveyor goes to work for Ketchikan Pulp Company in its new \$50 million plant at Ward Cove. This single Airveyor system handles all incoming bulk magnesium oxide—unloads from box cars, delivering to two storage bins . . . reclaims from either bin for transfer to a day bin . . . recirculates from one storage bin to another, if desired. Conveying rate, for any of these operations, is 10 tons an hour—fast, clean, efficient conveying all the way, from cars to process.

Ward Cove plant, the first major industrial plant in Alaska, has a daily production of 300 tons of high quality chemical cellulose, and is shipped to the United States and world-wide markets.

Many pulp and paper mills in this country and Canada use the Airveyor for the handling of their mill-supply chemicals, due to its inherent ability to perform, day in and day out, efficiently and with minimum attention and maintenance expense.

Over a quarter of a century of experience in air-conveying goes into every job. Fuller engineers are well qualified to make a thorough study of your conveying problems, and recommend equipment best suited to solve your needs, efficiently and economically. If interested in less costly materials handling, ask for an engineering study. We'll be glad to make our recommendations and you are under no obligation whatever for this service.



**Fuller**  
... pioneers in harnessing AIR

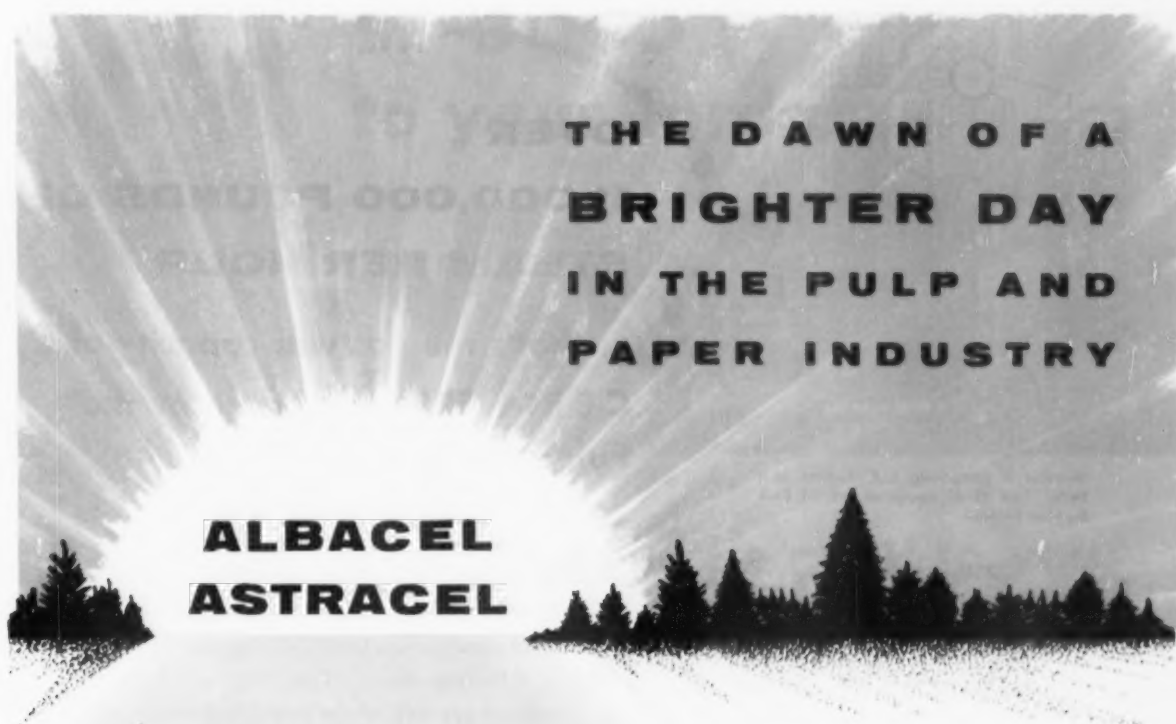
**FULLER COMPANY, Catasauqua, Pa.**

GENERAL AMERICAN TRANSPORTATION CORPORATION SUBSIDIARY

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THE DAWN OF A  
BRIGHTER DAY  
IN THE PULP AND  
PAPER INDUSTRY

**ALBACEL  
ASTRACEL**

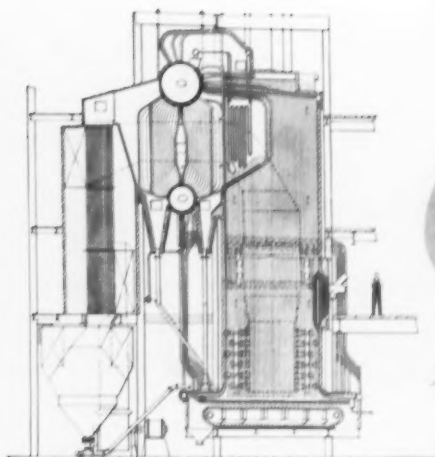
Today's demand for brighter and whiter papers is a constant challenge to pulp mills to produce quality pulps with unusually high brightness and strength. Riegel Carolina continues to be among the leaders in meeting this challenge, taking full advantage of multiple stage chlorine dioxide treatment and other recent developments in the art of bleaching.

• • •

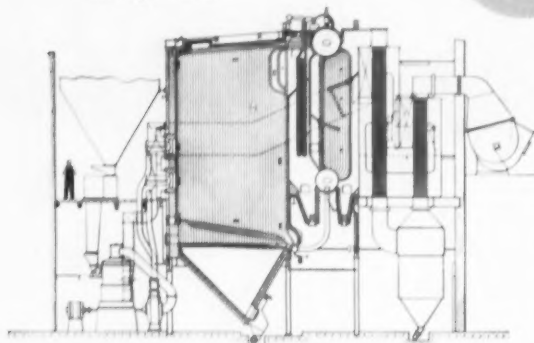
The demands of paper users become more exacting with time, but you may be sure that whatever these demands may be, you can depend on Riegel to provide pulp that will help you to meet them.

**Riegel Carolina Pulps**  
ALBACEL • ASTRACEL

RIEGEL PAPER CORPORATION • 260 MADISON AVENUE • NEW YORK 16, N. Y.



Installation comprising C-E Vertical Unit Boiler, Type VU-40, equipped with C-E Bark Burning Furnace.



Installation comprising C-E Vertical Unit Boiler, Type VU-50, fired by C-E Pulverized Fuel System.

#### Recent Purchasers of C-E Boilers in the Pulp and Paper Industry

Albemarle Paper Company  
 Brown Company  
 Canadian International Paper Co.  
 Central Fibre Products Co.  
 Container Corp. of America  
 Continental Can Company  
 Coos Bay Pulp Corporation  
 Downingtown Paper Company  
 Finch Pruyn & Co., Inc.  
 Gaylord Container Corp.  
 Glatfelter Company, P. H.  
 Great Lakes Paper Co., Ltd., The  
 Great Northern Paper Co.  
 Inland Empire Paper Co.  
 Kalamazoo Vegetable Parchment Co.  
 Longview Fibre Company  
 Marinette Paper Company  
 Mead Corporation, The  
 Minnesota & Ontario Paper Co.  
 Rathborne, Hair, Ridgway Box Co.  
 Scott Paper Company  
 Valentine Pulp & Paper Co., Inc.  
 Waterfalls Tissue Corp.  
 Western Kraft Corporation  
 Whippany Paperboard Co., Inc.

**OVER  
11,000,000 POUNDS OF  
STEAM PER HOUR**

**...that's the postwar capacity of  
C-E BOILERS\* purchased by the  
Pulp and Paper Industry.**

Based on this 10-year sales record that includes a distinguished list of customers—just the more recent of which are shown at the left—C-E Vertical Unit Boilers and the C-E Package Boiler (Type VP), have evidently won the seal of approval of the pulp and paper industry.

Of equal significance is the repeat order record. In this ten-year period alone, thirteen leading mills reordered VU Boilers. In fact, one leading paper company placed *seven separate orders* for VU Boilers.

The family of VU Units is versatile. It includes types especially suitable for firing with pulverized coal, oil, gas or any of these fuels in combination. Some are designed for the installation of any type of stoker. Others are equipped with the C-E Bark-Burning Furnace.

The paper industry has purchased VU and VP Units with these various types of firing in capacities ranging from 6,000 lb of steam per hr up to 300,000 lb per hr with design pressures up to 1425 psi and temperatures to 855 F.

Before you purchase any new steam generating equipment investigate the reasons for the widespread acceptance of C-E Boilers in the pulp and paper field. We'll be glad to discuss your plans with you or your consultants—without obligation of course.

\*Exclusive of 80 postwar C-E Recovery Units

**COMBUSTION  
ENGINEERING**

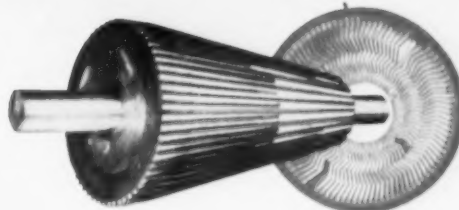
Combustion Engineering Building  
200 Madison Avenue, New York 16, N. Y.



BOILERS, FUEL BURNING & RELATED EQUIPMENT; PULVERIZERS, AIR SEPARATORS & FLASH DRYING SYSTEMS; PRESSURE VESSELS; AUTOMATIC WATER HEATERS; SOIL PIPE

**BE GOOD**   
**to your Jordans**

**and they will be good to you**



Whatever Jordans you use — old or new — their quality of performance depends on the **Plug and Shell Fillings**.

Equipment, facilities and years of specialization make Bolton unique as suppliers of superior Fillings that fit any Jordan — in any design — in any metal.

**KNIVES** are supplied in any size, shape or design for brushing, cutting and all variations in between.

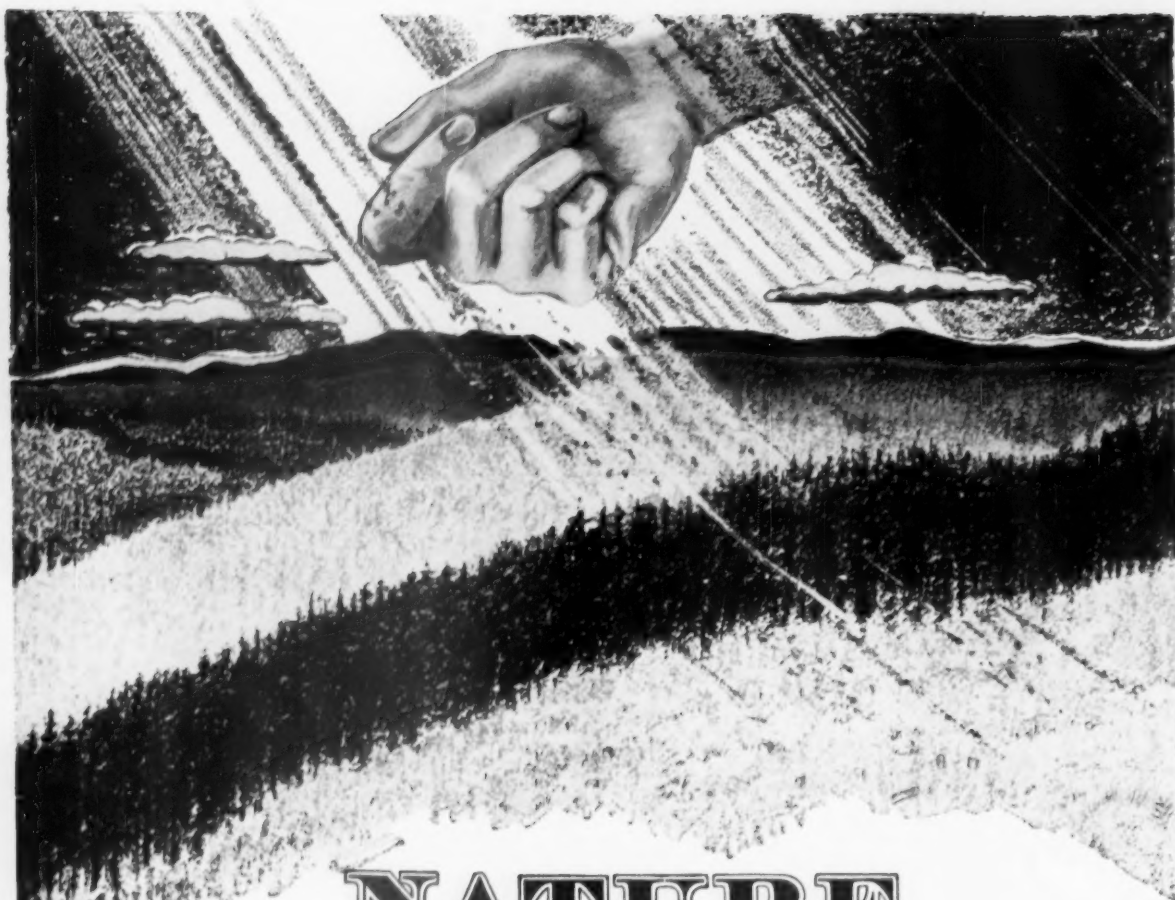
**WOODS** supplied are our own selected kiln-dried oak, maple or South American hard wood. Special material separators are also available.

**RIGID PLANT CONTROL** governs the complete fabrication of all **BOLTON Fillings** from the raw metal, right through our own special heat-treating and machining processes, to the finished product.

Be good to your Jordans — get **BOLTON Fillings** — and your Jordans will be good to you.

THE BOLTON AWARD

**John W. BOLTON & Sons, Inc.**  
**EMERSON MANUFACTURING DIVISION**  
Lawrence, Massachusetts, U. S. A.



# NATURE

*sows the seed*

Natural reforestation on Weyerhaeuser Timber Lands is achieved with seed supplied from blocks of trees reserved during logging and left standing to re-seed the adjacent cut-over area. This is a basic principle of Tree Farming.

Weyerhaeuser forest lands, consisting of eleven Tree Farms, are *cultivated* scientifically and intensively in line with the best possible forestry practices. Reforestation keeps pace with harvesting. Re-seeding of cut-over land *now* assures a timber crop that is sufficient and continuous.

Researchers are each day finding new uses for woodpulp. A full supply from Weyerhaeuser Tree Farms will *always* be available as a result of planned timber crops and a helping hand from Weyerhaeuser foresters.



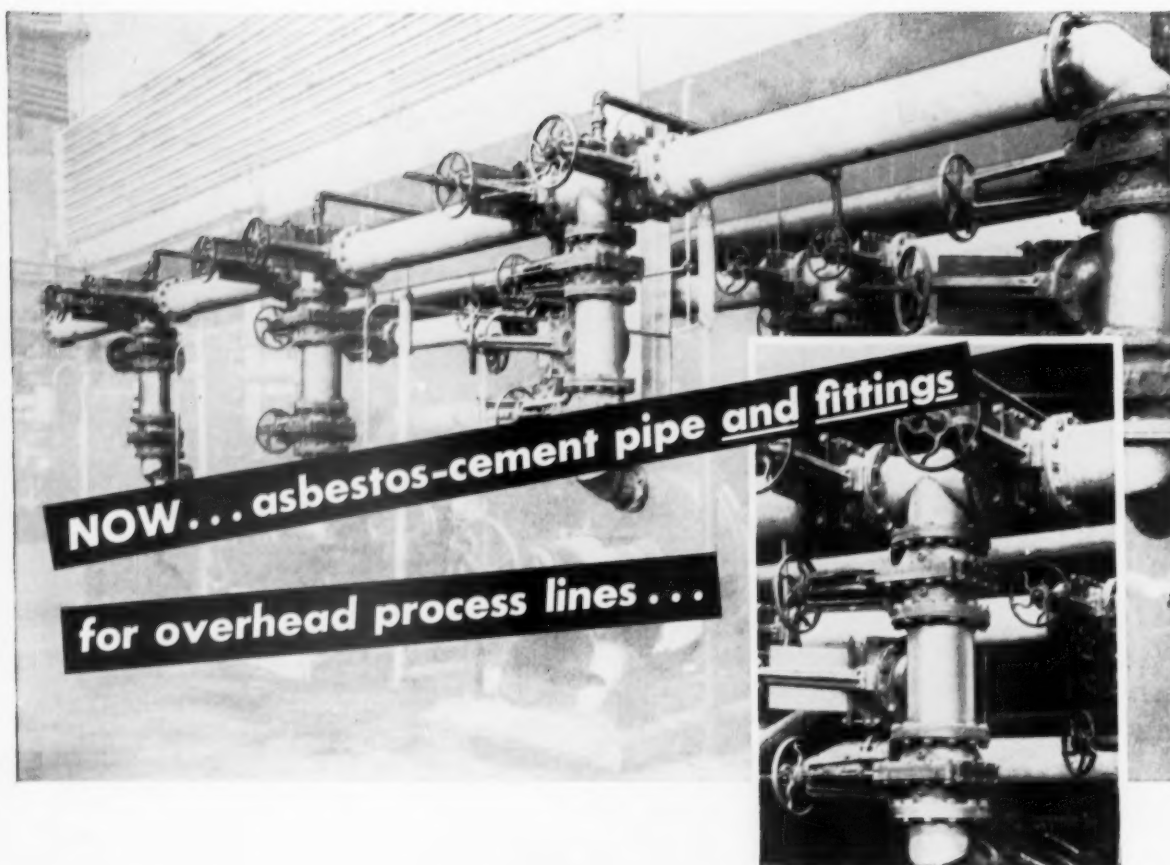




**OXYRIM<sup>®</sup> IS THE TRADEMARK OF  
THE A. O. SMITH CORPORATION  
for the remarkable new steel that  
gives longer life to sulphate digesters**

INVESTIGATE NOW! Your A. O. Smith representative has complete and detailed information on these longer-life digesters. He'll be glad to counsel with you. Call or write the nearest district office listed at right, or write to A. O. Smith, Process Equipment Division, Milwaukee 1, Wisconsin.





## Transite Pressure Pipe provides high carrying capacity and economical, efficient service...



You can now obtain Transite® asbestos-cement Pressure Pipe with Transite-lined Street Fittings for your overhead process systems. This permits the installation of high strength non-metallic pipe for handling raw and treated water, washed and unwashed pulps, stocks of all kinds, multi-stage bleaching systems (except direct chlorination) and certain mill wastes. There is no better way to provide clean pulp and stock than by handling it through Transite Pressure Pipe.

**Low installation costs**—Transite is light in weight, easy to handle, and can be drilled, cut, threaded and machined with standard tools. And, because its carrying capacity stays high, you can specify the smallest diameter pipe necessary... thus making the minimum capital investment.

**Low pumping costs**—Transite Pressure Pipe offers exceptionally low frictional resistance to the flow of liquids (flow coefficient  $C=140$  for water). Since it is resistant to sliming and bacterial growths, this high carrying capacity is continuously maintained so that pumps can be operated at maximum efficiency and lowest cost.

**Low maintenance costs**—Transite cannot rust and is highly resistant to the corrosive action of mild acids and alkalis. Consequently, it requires a minimum of maintenance throughout its long life.

For underground service too, such as water supply or fire lines, Transite Pressure Pipe offers the same outstanding advantages. To obtain further information on Transite Pipe Systems for paper mills, write Johns-Manville, Box 60, New York 16, N. Y.

\*Reg. U. S. Pat. Off.



# Johns-Manville TRANSITE PRESSURE PIPE

**DESIGNED**  
*Bauer*

**... BASED ON EXPERIENCE**

Here is a disc refiner that will bring out the quality of your stock. It is the Bauer "Pump-Through" Refiner, designed well for stock preparation especially in strength development. With this machine, it is possible to get high freeness, high tear at low horsepower.

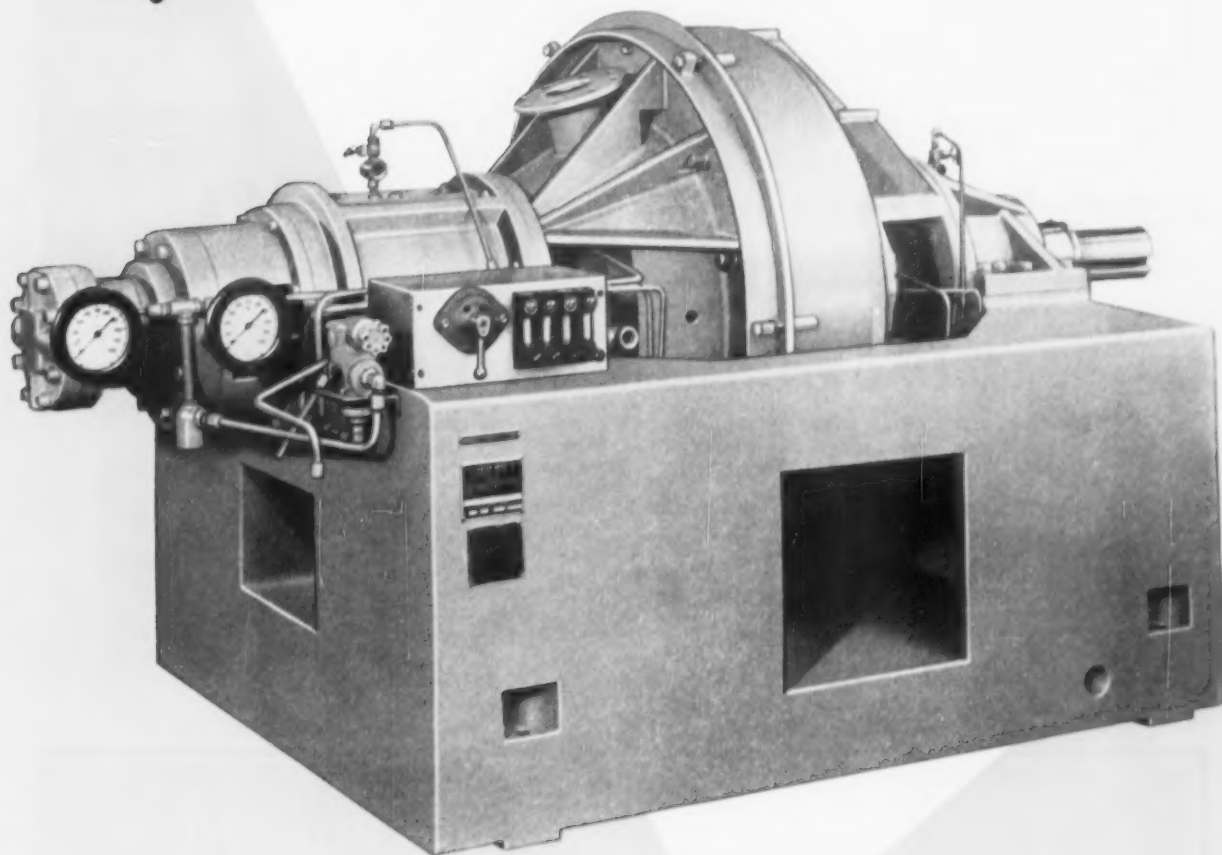
This unique refiner is a "natural" for your mill. The pump-through feature eliminates the necessity of chests and provides a simple arrangement for series refining. Among the many prominent features are through-shaft, clean case lines, controls adaptable to remote and automatic operation.

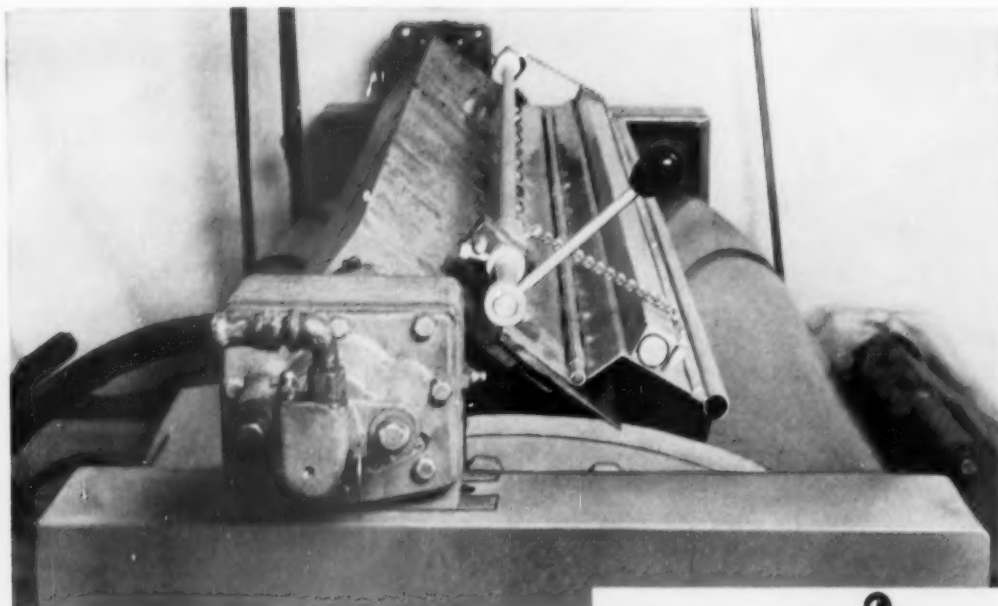
Pictured is the No. 442 Bauer Refiner with a 32-inch single revolving disc capable of accepting up to 400 hp. It is a compact, easily operated, proved unit that will surpass in performance and quality of stock the conventional beater, jordan, or other stock preparation refiners.

Ask your Bauer representative to acquaint you with the modern pump-through stock refiner.

### **THE BAUER BROS. CO.**

DISC REFINER HEADQUARTERS  
1800 SHERIDAN AVE. • SPRINGFIELD, OHIO



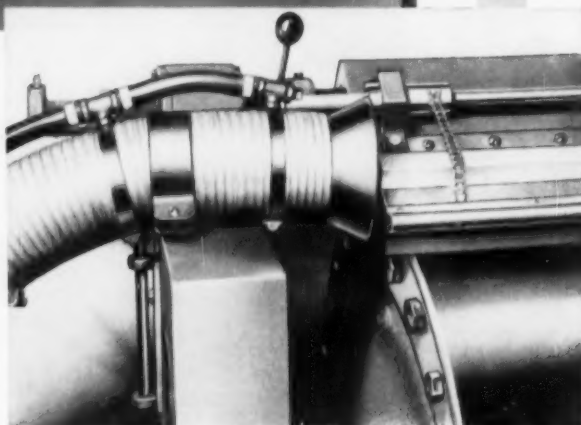


*Dryer Doctor with Fuzz Remover installed. (Exhaust Elbow removed to show cross-section). Exhaust Elbow in place, right.*

The first universally satisfactory answer  
to a paper maker's long-standing  
problem . . .

## **LODDING FUZZ REMOVER**

is IT — all the way  
from board to bible paper



Every paper maker knows fuzz is a nuisance in the air and on the sheet. Lodding engineers, after years of study and experimentation, announce a solution of this problem. Working on a new principle — a series of air jets scientifically put to work — they have arrived at a highly successful solution at low cost for installation and operation. This means a better sheet, free from scabs and lint . . . greater drying efficiency from cleaner dryers . . . removal of the fire hazard caused by airborne floating fuzz. Application of this equipment to several machines has resulted in outstanding benefit.

**LODDING ENGINEERING CORPORATION**  
**WORCESTER, MASSACHUSETTS**





## For The Pacific Northwest Paper Industry!

Now 23—Addition of the Tacoma, Wash., plant will increase the number of General Chemical plants producing Dry and Liquid Aluminum Sulfate to 23.



## GENERAL CHEMICAL ANNOUNCES LARGE, NEW LIQUID ALUM FACILITIES

**First on Puget Sound**—General Chemical's new Liquid Aluminum Sulfate plant soon to be in operation at Tacoma, Washington, will give the area its first local source of this important paper-making chemical. The plant provides an important service long needed by the fast-growing Pacific Northwest paper and other industries . . . which are also served by General's alum plants in Vancouver and Kennewick.

This new Tacoma plant is one more example of

how General Chemical keeps pace with the alum and other chemical requirements of America's paper makers year after year. With it, General will have 23 alum producing facilities across the country. Here is a network geared to serve all your alum needs whether you operate one plant or several—anywhere on the map.

**For further information** on how we can supply you, write or phone the nearest General Chemical office.

### GENERAL CHEMICAL DIVISION ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo • Charlotte • Chicago • Cleveland • Denver • Detroit • Greenville (Miss.) • Houston • Jacksonville • Kalamazoo • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh • Providence • San Francisco • Seattle • St. Louis • Yakima (Wash.)

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Basic Chemicals

for American Industry



Drilling the  
production wells

# Crude Sulphur

**for Industrial Use**

*from  
the  
properties  
of*

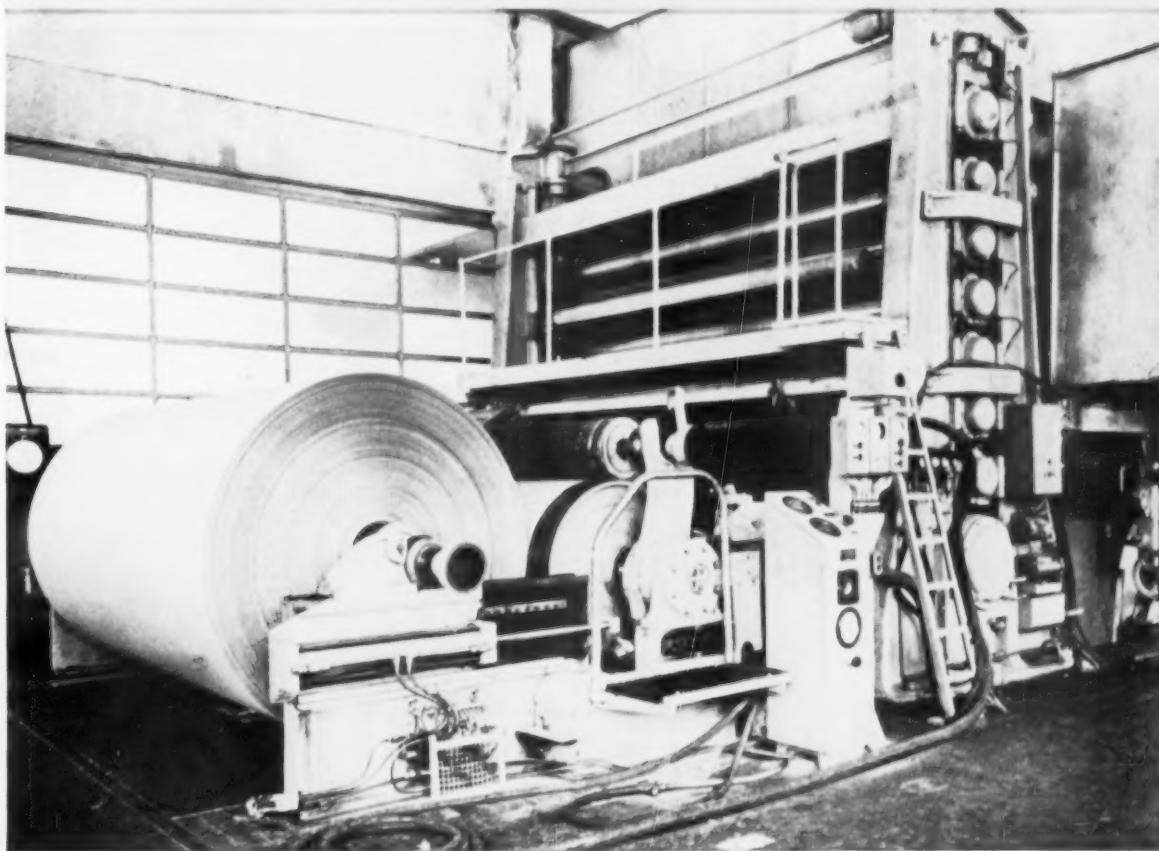
**Texas Gulf Sulphur Co.**

75 East 45th Street • New York 17, N. Y.

*Producing Units*

- NEWGULF, TEXAS
- MOSS BLUFF, TEXAS
- SPINDLETOP, TEXAS
- WORLAND, WYOMING

Pusey Jones Improved Type Pope Reel installed in Italian Kraft paper mill. Reel has horizontal track air-loaded nip pressure, 36" diameter Reel drum, 64" maximum diameter paper roll.



*Italian Kraft Mill gets*  
**fast installation . . . full satisfaction**  
*with New Pusey Jones Pope Reel*

Paper mills throughout the United States have proved the ability of the new, improved type Pusey Jones Reel to give uniform rolls . . . smooth winding . . . simplified reel changes.

Now this same outstanding Reel — installed in just 36 hours — is helping a prominent Italian mill to produce more Kraft paper . . . more easily . . . for better profits.

"We have pleasure to inform you," writes

this transatlantic customer, "that your Pope Reel is now working to our complete satisfaction and the installation was made in a very short time. With your new Pope Reel, we have made perfect reels of Kraft paper."

Let Pusey Jones engineers show you how the Improved Type Pope Reel can reduce downtime . . . give greater safety on reel changes . . . control tension . . . provide accurate roll-to-drum pressure. Write or call us today.



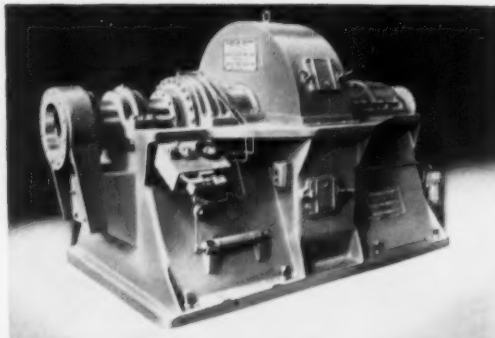
## THE PUSEY AND JONES CORPORATION

Established 1848 : Builders of Paper-Making Machinery  
Fabricators and Welders of all classes of Steel and Alloy Products  
Wilmington 99, Delaware, U.S.A.

# SUTHERLAND PRODUCTS FOR PULP PROCESSING

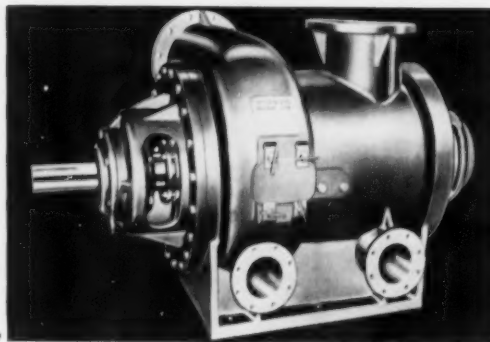
## SUTHERLAND REFINER

Experience gained in the operation of more than 500 Sutherland refiners is available to help you solve your refiner problems.



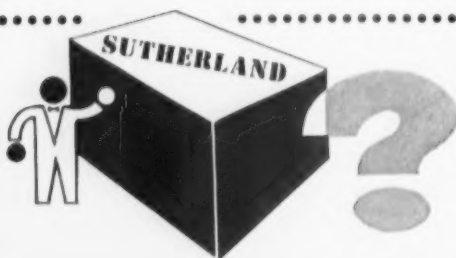
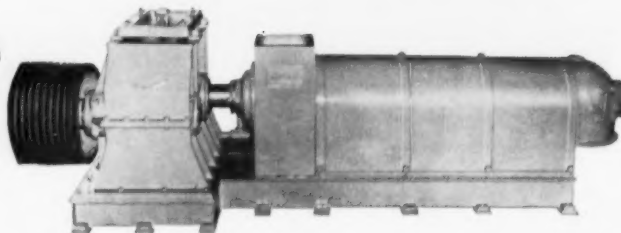
## SUTHERLAND BREAKER TRAP

The only machine specifically designed for the selective defibering of paper pulp.



## SUTHERLAND PRESSURE WASHING SYSTEM

Higher operating efficiency is accomplished with specially designed presses—a real advance in the washing field.



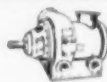
## SUTHERLAND RESEARCH

soon will have something new for you.  
WATCH FOR IT.

**SUTHERLAND**

REFINER CORPORATION  
TRENTON 8, NEW JERSEY

MANUFACTURED BY VALLEY IRON WORKS CO., APPLETON, WISCONSIN





# SIMONDS grinds a CURVE



## ... to Set a Paper Knife Free

In a SIMONDS Paper Cutter Knife the face side not only tapers back from the cutting edge *but is also concave ground*. This combination gives maximum clearance in the knife. As a result, the knife cuts free and easy without rubbing the stock . . . gives you cleaner, straighter cuts with less strain on the knife and cutter. Simonds famous "Mirror-Finish" on the face side is another plus you get in a SIMONDS Paper Knife . . . a plus that contributes to a keener cutting edge throughout its longer life.

Back of all this is Simonds-made S-301 Steel developed especially for all types of paper cutting applications . . . a special alloy steel that combines maximum hardness with toughness to give you more cuts per grind.

These are good reasons why it will pay you to specify SIMONDS to your dealer for all your knife requirements.

For Fast Service  
from  
Complete Stocks



Call your

**SIMONDS**  
Industrial Supply  
DISTRIBUTOR

**SIMONDS**  
SAW AND STEEL CO.

PITTSBURGH, MASS.

Factory Branches in Boston, Chicago, San Francisco and Portland, Oregon.  
Canadian Factory in Montreal, Que. • Simonds Divisions: Simonds Steel Mill, Lockport, N. Y.,  
Simonds Abrasive Co., Phila., Pa. and Arvida, Que., Canada

# Bingham

## "EVEN-FLO" PUMP

## DISCHARGES WITH NON-PULSATING FLOW REGARDLESS OF VARIATION IN SUPPLY!



- Cannot Become Airbound!
- Operates in Small Sumps with Little or No Submergence
- Maintains Constant Liquid Level in Sump with Varying Supply

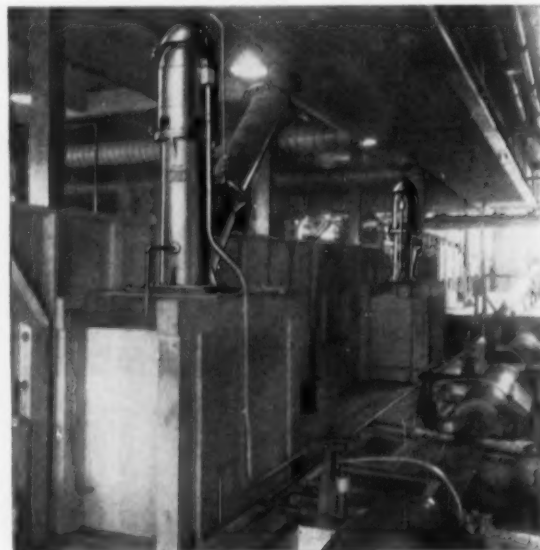
Bingham "Even-Flo" Pumps are being used effectively in the Pulp and Paper industry for such services as: Primary and Secondary Screen Transfer • Seal Pits for Barometric Legs • White Water and Stock Chests • Mill Sewage and Waste Liquor Sumps • Sludge Collecting Chests • Acid Sumps • Fan Pumps • Washers • Save-Alls

A battery of "Even-Flo" Pumps installed for screen transfer service. The non-pulsating, even rate of discharge, which is a characteristic of these pumps, increases flat screen production as much as 30%.

The BINGHAM "Even-Flo" Pump discharges pumpage with an even, non-pulsating flow, regardless of whether it is pumping at full or fraction of capacity. The *evenness* of discharge is not affected by surges in supply to pump sump. Maintains constant liquid level in the pump sump, regardless of variation in incoming supply.

The "Even-Flo" pump also handles liquids containing entrained air at the same uninterrupted, even rate of flow, without becoming airbound.

Available for any capacity. Call your nearest Bingham office for full information, or write for Bulletin 36.



# Bingham

SINCE 1921

BINGHAM PUMP COMPANY

General Offices: 2800 N.W. Front Avenue, Portland 10, Oregon

Factories: Portland, Ore. • Vancouver, B.C., Canada

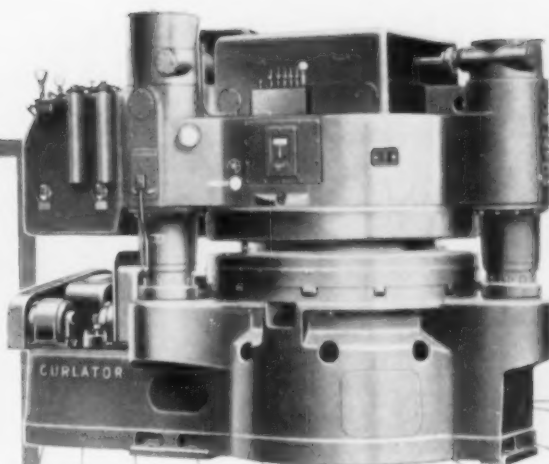


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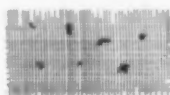
*Only*  
**CURLATOR**  
**Will Give**  
**YOUR PULP**  
**All These**  
**QUALITIES**



**MORE  
UNIFORM  
PULP**



**INCREASES  
TEAR**



**URNS FINE  
SCREEN  
REJECTS INTO  
QUALITY PULP**



**INCREASES  
CLEANLINESS,  
ELIMINATES  
SHIVES...  
REDUCES DIRT**

**CURLATORS ARE IN PROFITABLE  
OPERATION ON SULPHITE PAPERS...  
KRAFT PAPERS...TISSUE PRODUCTS**

**Let us show how** Curlators can profitably work for  
your mill. No obligation, of course.

**WRITE:** We gladly offer our  
engineering experience and know-how  
to help solve your pulp problems.  
Bulletin available.

**CURLATOR<sup>+</sup>**  
*Corporation*  
EAST ROCHESTER, NEW YORK

# NEW HIGH in Sheet Moisture Uniformity

... through new Foxboro Control  
measuring actual sheet moisture at-the-reel

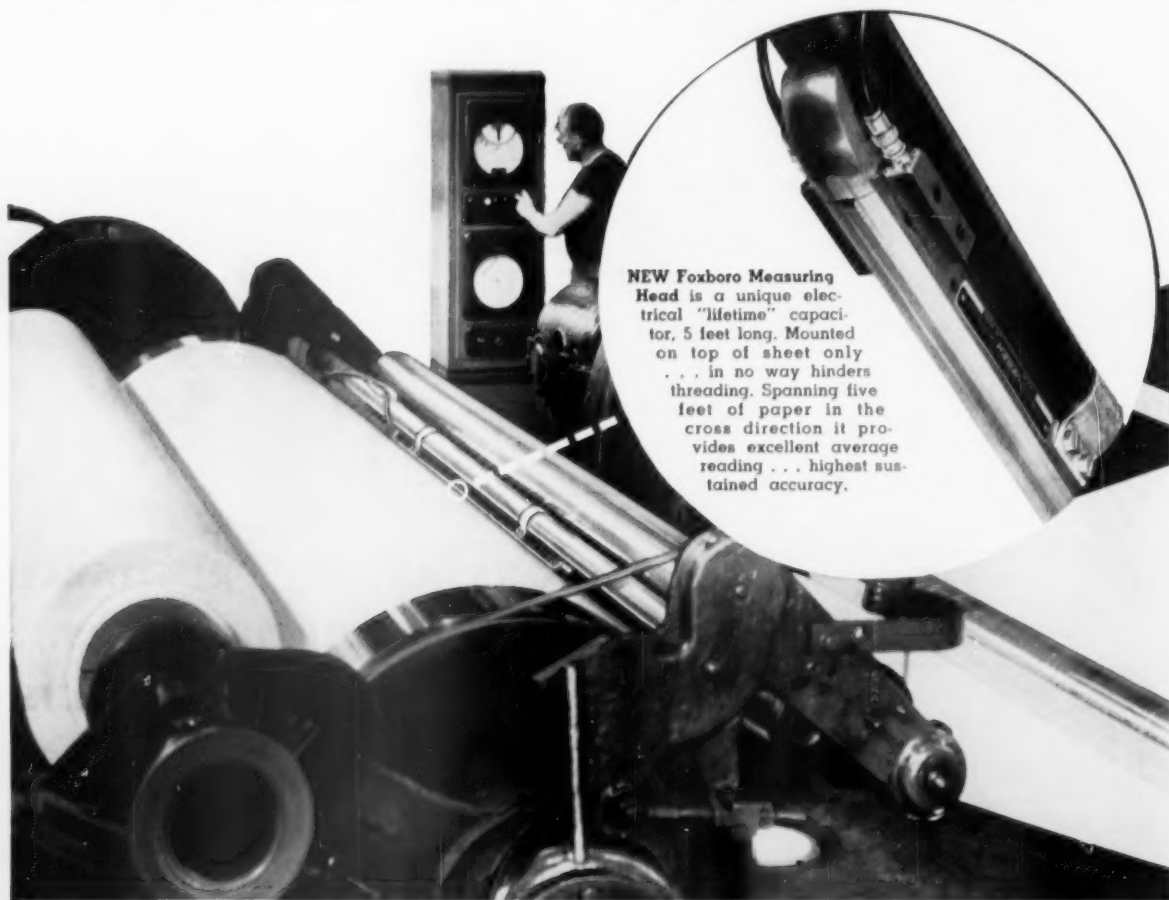
Direct, continuous measurement of actual moisture variations at the reel . . . smooth, fast-acting regulation of steam to the dryers. That's how the new Foxboro Sheet Moisture System automatically assures you the closest moisture control ever available. In addition, it provides completely automatic reduction of dryer temperature during sheet breaks.

In leading mills from Bangor to Los Angeles, there are already more than a dozen installations

of this exclusive system. They're all in successful use — on thinnest paper to heavy board and pulp sheets.

The Foxboro Sheet Moisture Control System is the result of years of research, development, field-testing. Find out how it can improve your paper quality, eliminate costly rejects, and help you ship paper at precisely the specified moisture.

Write for illustrated Bulletin PD 107-2.



**NEW Foxboro Measuring Head** is a unique electrical "lifetime" capacitor, 5 feet long. Mounted on top of sheet only . . . in no way hinders threading. Spanning five feet of paper in the cross direction it provides excellent average reading . . . highest sustained accuracy.

THE FOXBORO COMPANY, 999 NEPONSET AVENUE, FOXBORO, MASS., U. S. A.

**FOXBORO**  
REG. U. S. PAT. OFF.

**AUTOMATIC SHEET MOISTURE  
CONTROL**

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND





**B CONC  
NEW...**

**a new**  
**BISMARCK BROWN**

...created to meet the persistent demand for brighter shades in the basic brown range.

B CONC NEW is chemically similar to our older Bismarck Brown types — BP CONC and the redder RRNP CONC — and offers the same, well-known, good working properties. All three types are non-dusting powders.

*Supporting every product we offer are the facilities — available to you — of our Technical Service Laboratories. This service is based on years of intensive laboratory research and years of practical mill experience. We offer full cooperation on all your paper coloring and paper matching problems; we invite your inquiry.*

Write us for samples and technical literature; call upon our skilled technical service.



*From Research to Reality*

**GENERAL DYESTUFF COMPANY**

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION

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**It Costs No More** to get the dependability and service that has made Solvay the world's largest producer of alkalies and associated chemicals.

**Solvay Quality** is the result of combining the nation's finest alkali manufacturing facilities with over 70 years of production know-how.

**Solvay Service**—Solvay can offer technical service not ordinarily available because it has a separate section of its Technical Service devoted exclusively to the paper industry. In addition, Solvay is able to offer sales and delivery services to fit

the needs of both small and large consumers through its 13 branch offices, 4 plants and over 200 local warehouses.

**For Quality . . . Dependability . . . Service**—Be sure you specify Solvay. Phone or write the Solvay office nearest your plant.

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**Everything's  
under control...**

**with the**



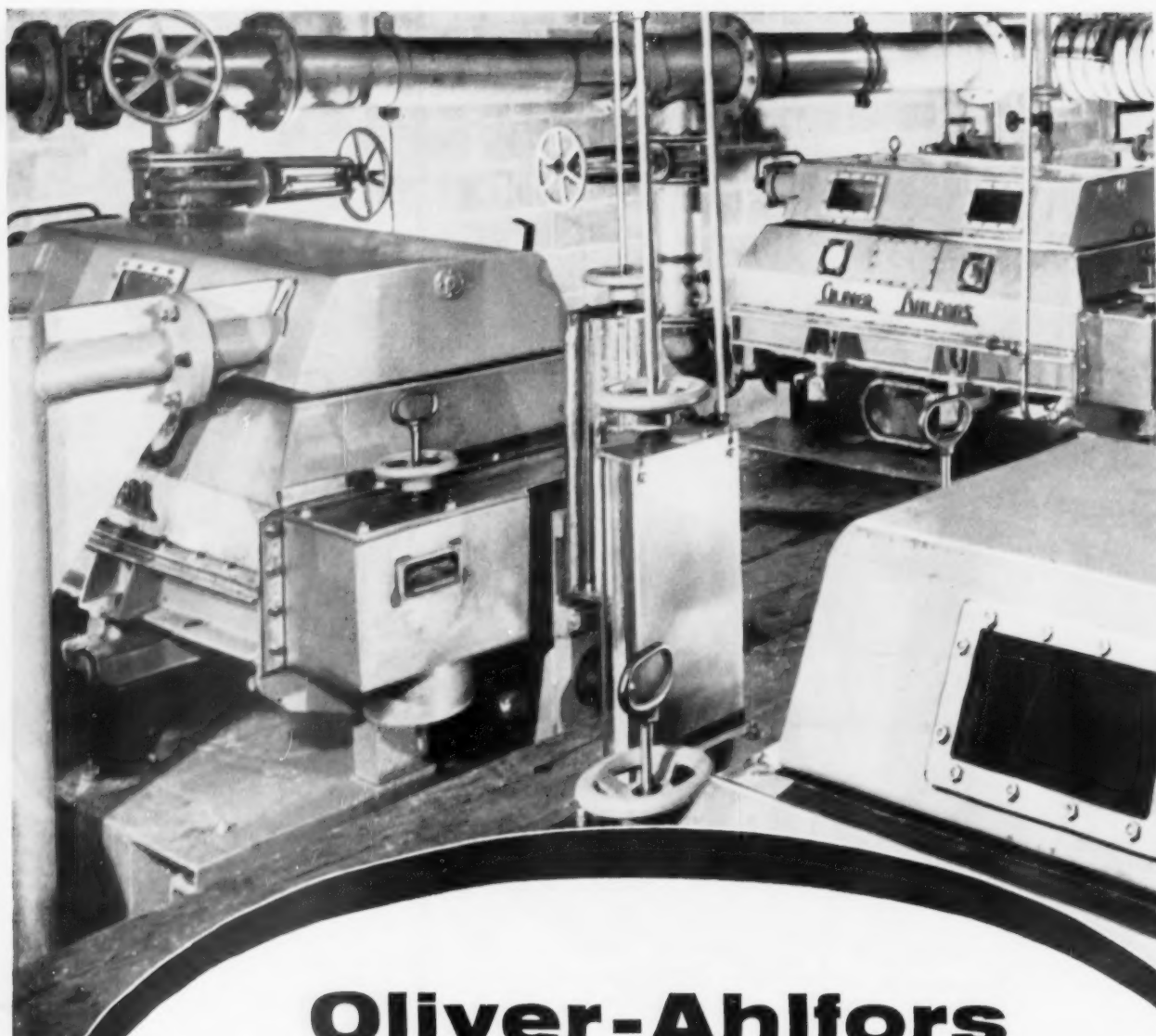
Smooth, versatile Reliance VARIABLE SPEED DRIVES are made to help you keep everything under control!

Dynamic response for rapid starting, stopping and reversing; hairline accuracy for maintaining required line speeds; positive, step-by-step assurance of optimum speeds during each processing cycle; precise delicate regulation of quantity, quality, color, shape, form and size . . . in fact, EVERYTHING is precisely controlled by Reliance V•S Drives.

For faster line speeds, smoother acceleration and deceleration, more sensitive tension control and other outstanding production dividends in your plant, call the nearest Reliance sales office . . . or write for Bulletin D-2311, *Reliance Electric & Engineering Co., 1105 Ivanhoe Road, Cleveland 10, Ohio, Canadian Division—Welland, Ontario.*

D-1198

**RELIANCE** **ELECTRIC AND  
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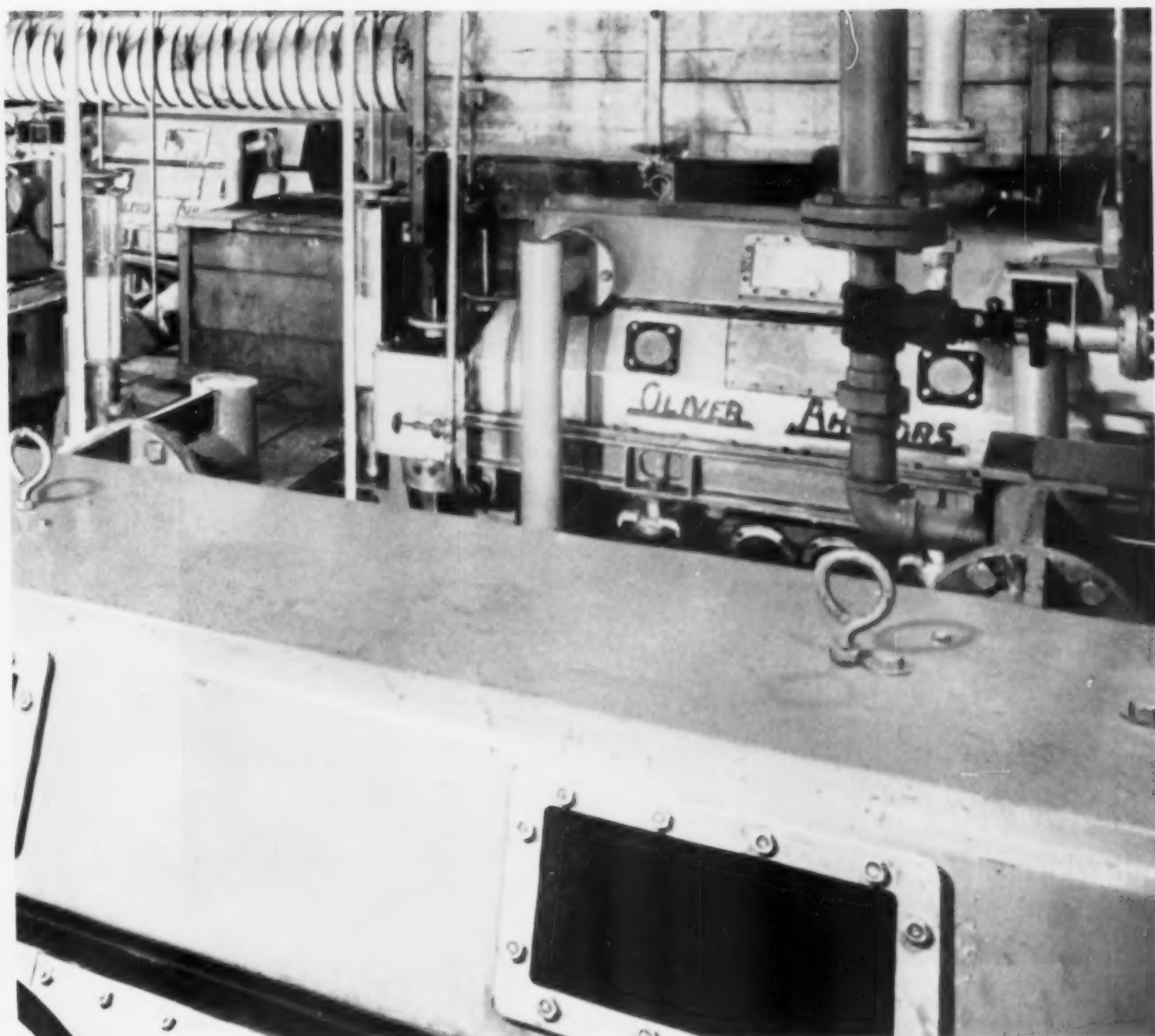


# **Oliver-Ahlfors Screens**

## **Handle 165 Tons of Paper Pulps Daily**

**in Large Washington Kraft  
Mill**





This compact installation of Oliver-Ahlfors Pulp Screens is located in the St. Regis Paper Company's Tacoma, Washington mill. 165 tons of fully bleached kraft pulp are handled by these screens daily. Of the units shown, five are for primary and one for secondary screening.

The Oliver-Ahlfors Screen differs from conventional flat screens by operating on the "upflow" principle. Accepted fiber is screened upward through submerged screen plates, while the heav-

ier fiber bundles, dirt and scale settle in the screen vat and are withdrawn through adjustable reject outlets. Automatic hydraulic screenplate cleaning showers and screens are totally enclosed to prevent pulp contamination and also contribute to a clean, dry screen room.

Why not find out how you can benefit with Oliver-Ahlfors "upflow" Pulp Screens? Bulletin No. 750 gives the complete story. For your free copy, write Dorr-Oliver Inc., Stamford, Conn.

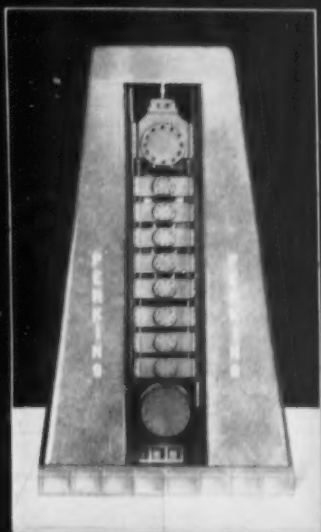


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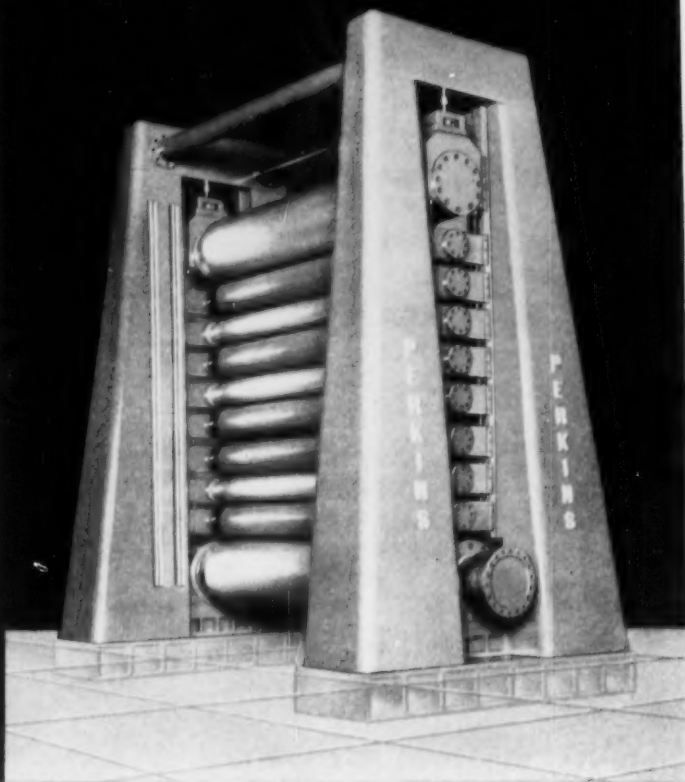
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT

STAMFORD • CONNECTICUT • U.S.A.

# PERKINS ANNOUNCES— NEW SUPERCALENDER DESIGN



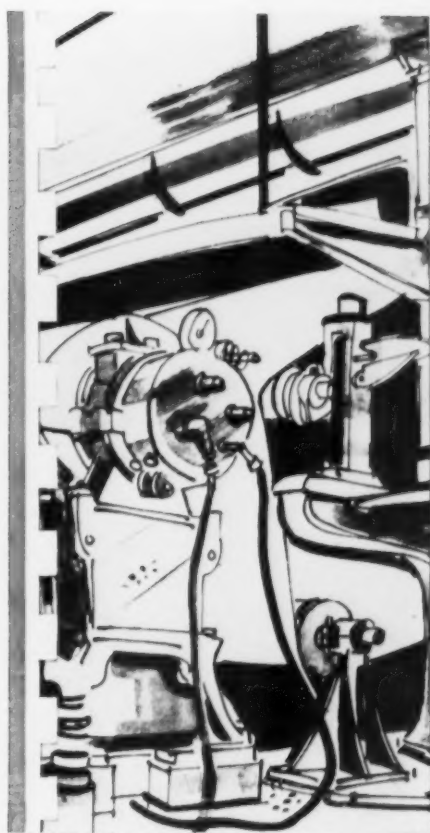
**The most forward step  
in Supercalender design**



The most modern and rugged design Supercalender ever built for super finishing—"Steady as a Rock"—frames and base of heavy fabricated steel plate sections, reinforced throughout—making possible speeds and pressures beyond present-day practices. Equipped with heavy Timken tapered roller bearings or SKF spherical self-aligning roller bearings. This new Perkins design is the most forward step in the design of Supercalenders in years.

All hydraulic pipe lines, oil lubrication lines and air lines will be concealed inside the calender frames, with easy access for installation of the pipe lines. The Calender will have double tee slots on each frame upright for rigid support of fly rolls, platforms or other members to be attached to the inside of the calender frames. Each Supercalender to have a roll removal unit for ease in removing the rolls endwise through the calender frame gaps.

**B. F. PERKINS & SON, Inc. • HOLYOKE, MASS.**  
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Suggestions for...

## Improved Felt Performance

**Albany Felt Company**  
Albany, New York

(ACTUAL SIZE)

# ANNOUNCING a new Handbook for Improved Felt Performance

Just off the presses, this new handbook is jam-packed with useful information concerning felt performance on paper machines. Designed in handy pocket size, it will serve as an on-the-job manual, a valuable textbook for mill training programs, and a "refresher course" for more experienced papermakers.

This 30-page handbook is offered to the paper industry, without charge, by Albany Felt Company as another evidence that "paper is our business, too" and constitutes one more effort to help you produce **more saleable tons per day!**

If you have not already received a copy of this new handbook, or if you desire additional copies, please use the coupon below to let us know your requirements.

ALBANY FELT COMPANY, Albany, N. Y.

Please send me \_\_\_\_\_ copies of the new handbook "Suggestions for Improved Felt Performance."

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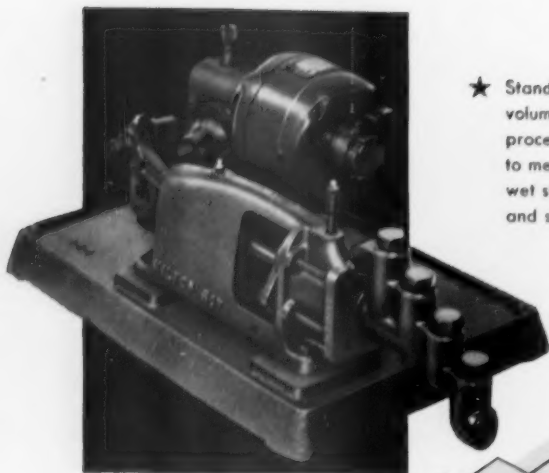
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## ALBANY FELT COMPANY

"World's largest Manufacturer of Paper Machine Felts"

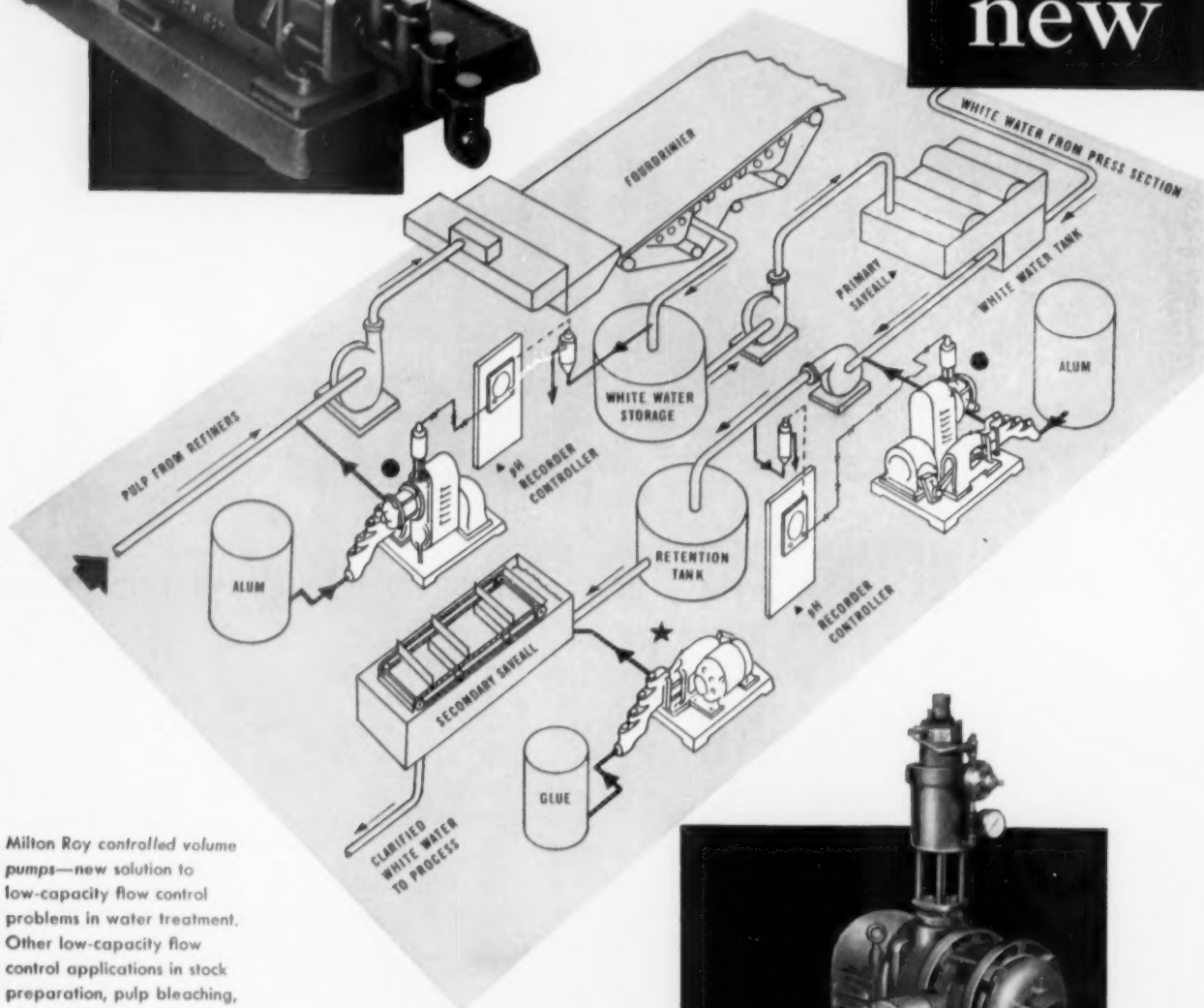
MAIN OFFICE AND PLANT, ALBANY 1, NEW YORK

Other plants: Housick Falls, N. Y.; North Monmouth, Maine; Cowansville, Quebec



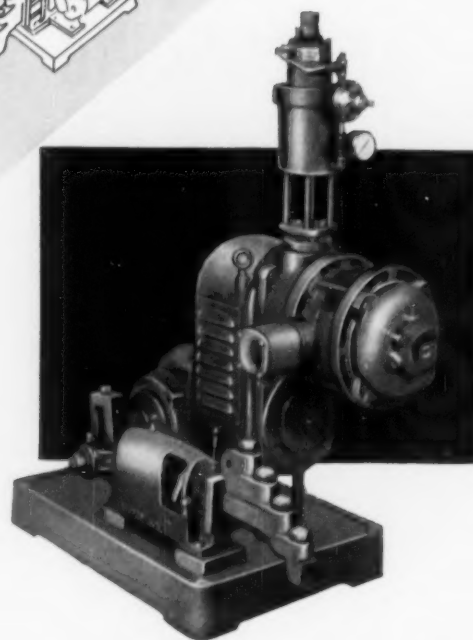
★ Standard motor-driven controlled volume pump on glue feed. In other process applications, this pump is used to meter such chemicals as dyes, sizes, wet strength resins, defoamers, and slimicides.

**new**



Milton Roy controlled volume pumps—new solution to low-capacity flow control problems in water treatment. Other low-capacity flow control applications in stock preparation, pulp bleaching, and machine processes.

● Motor-driven controlled volume pump, with air-controlled variable drive, used as final control element in accurate regulation of white water pH.





# flow-control approach

*provides accurate metering of paper makers and water-treating chemicals*

## **Controlled volume pumps are flow control instruments**

**A**CCURATE metering of paper makers and water-treating chemicals is a *must* for efficient and economical mill operation. Milton Roy *controlled volume pumps* provide paper makers with instrument precision in metering dye, size, glue, alum and other chemicals in stock preparation, bleaching, conversion and water-treating processes. Precision flow control improves product quality, prolongs life of boilers and processing equipment, conserves chemicals, and prevents loss of useable fibers to waste.

*Here's how*—Controlled volume pumps are really flow-control instruments . . . par-

ticularly valuable for controlling low-capacity flows. Reciprocating, positive displacement type pumps, they precisely measure and pump process chemicals within 1% accuracy! Pumps are available in capacities up to 1350 gallons per hour . . . pressures up to 50,000 pounds per square inch . . . with manual or automatic speed and stroke adjustment.

A few typical water treating applications are shown here. Other process applications are described in the literature listed below.\* How can Milton Roy Company's experience in handling low-capacity flow control problems benefit you? Milton Roy Company, *Manufacturing Engineers*, 1300 East Mermaid Lane, Philadelphia 18, Pa.

### **\*Write for these data sheets**

- F-54-1 Improving Wet Strength of Paper
- F-55-1 Efficient Metering of Paper Makers Chemicals in Stock Preparation
- F-55-2 Automatic Size Preparation Systems
- F-55-3 Controlled Volume Pumps in Machine and Conversion Processes
- F-55-4 Solving Water-Treating Problems in Paper Mills



*Engineering representatives  
in the United States, Canada,  
Mexico, Europe, Asia,  
South America, and Africa.*

Semtile Chip Silos, each 30 ft. I.D.  
by 78 ft. 2 in. high, Rayonier, Inc.,  
plant, Jesup, Georgia.



# Tile Silos

## for Storage of Dry Materials

These enormous chip silos, engineered and erected by Stebbins, are steel-reinforced concrete faced inside and outside with vitrified tile. No forms were required—a Stebbins construction method that results in substantial savings.

If you require facilities for storing mate-

rials—dry or wet—in large or small quantities—it will pay you to get Stebbins' recommendation. Or if you need corrosion-resistant process vessels, Stebbins' unequalled experience and facilities for the application of linings and the construction of tile can be extremely valuable to you.

*Write for Bulletin A-153*

SINCE 1884  
Specialists in  
Design  
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*Harvesting hemlock  
for PUGET PULP*



**Converting mills use**

# PUGET PULP

**in the manufacture of business and  
personal correspondence stationery**

PUGET PULP is bleached sulphite — clean and clear enough  
for the finest product, strong enough for the hardest use.

PUGET PULP is produced in steadily expanding amount in  
one of the most scientifically up-to-date mills in America.

PUGET PULP is made expressly for the market. Converting  
mill users are assured of a steady supply from a single non-  
competitive source.

**Gear your operations to PUGET PULP.**



*With output now exceeding 450 tons daily, more  
PUGET PULP is available for the market*

**PUGET SOUND PULP  
AND TIMBER COMPANY  
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WHAT'S NEWS AT BRISTOL . . .

# FIRST instrument system that carries out BASIC—GRAPHIC PANEL idea completely!

**A WIDE SELECTION:** For example, there are 35 receiver and 34 controller models and the widest variety of transmitters on the market. A model can be found among these that will exactly meet any requirement.

**FULL PLUG-IN SERVICE:** Change recorder to an indicator or vice versa in 10 seconds with ABSOLUTELY NO INTERRUPTION WHATSOEVER TO AUTOMATIC CONTROL.

Pull complete chassis out (one-piece chassis — no tools required). With chassis removed you get the same automatic control as before.

Change from one model to another or if trouble is suspected in a plug-in unit, the doubtful unit can be replaced by a spare while the suspected unit is checked in the service shop — out-of-service time is thus eliminated.

**CONTINUOUS VALVE POSITION INDICATION** on same instrument scale as set point scale, gives continuous data on control valve position — makes "bumpless" transfer possible simply by matching pointer positions — no need to read actual scale values — minimizes reading errors — speeds operations.

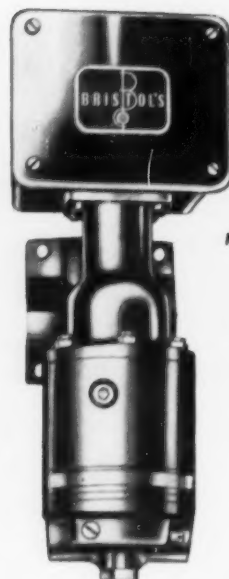
**SCALES ARE SCIENTIFICALLY DESIGNED** for instant, error-free readability — a new degree of close-up, as well as distance readability.

Write today for more details. The Bristol Company, 113 Bristol Road, Waterbury 20, Conn.

5.14

METAGRAPHIC INSTRUMENTS MEASURE, RECORD,  
INDICATE, AND AUTOMATICALLY CONTROL

Pressure • Vacuum • Absolute Pressure  
Differential Pressure • Liquid Level • Flow  
Temperature and • Mechanical Motion



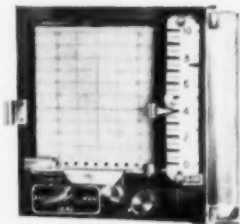
1

METAGRAPHIC TRANSMITTER

**SUPPLIED IN A VERY WIDE VARIETY OF SPANS AND RANGES:** For example, absolute pressure instruments are made in ranges as low as 5mm mercury absolute. Pressure instruments as low as 5 inches water to 10,000 psi. Over-range protection available up to 400% over-range.

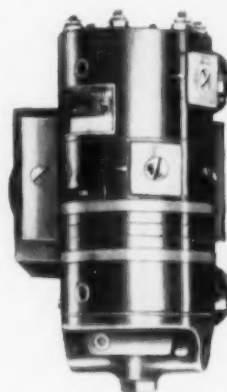
**NO INTERRUPTION WHATEVER TO AUTOMATIC CONTROL** when receiver chassis is removed.

**OFFERED FOR UP TO THREE MEASURED VARIABLES** — with air pressure regulators or air loaded regulators — three-position manual-automatic transfer valves for automatic control and six-position (on the same knob) transfer valves for cascaded control.



RECORDING RECEIVER

3



CONTROLLER

**VARIETY AND FLEXIBILITY:** The most flexible and complete line of controllers offered — 34 different models.

**PLUG-IN FLEXIBILITY:** Controllers are designed for full plug-in interchangeability for change of control mode or service. This means no process down-time for maintenance — no off-specifications product.

# BRISTOL

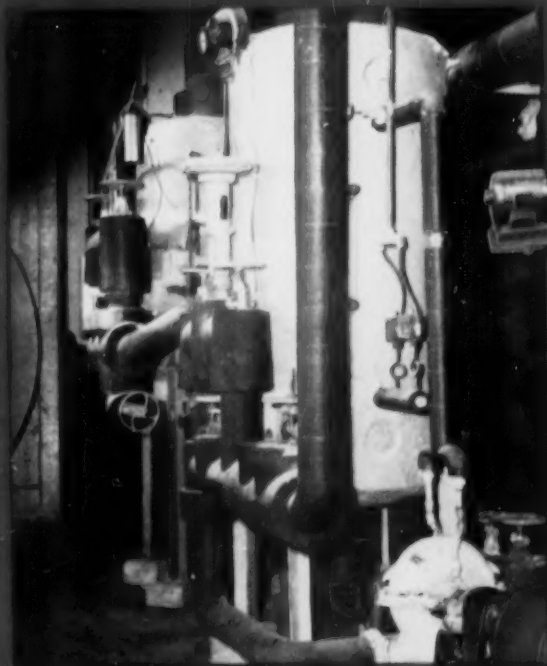
POINTS THE WAY IN  
HUMAN-ENGINEERED INSTRUMENTATION

BRISTOL'S  
TRADE MARK  
THE WAY TO BETTER CONTROL

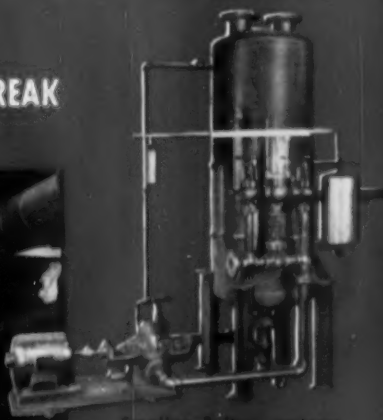
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS



## GIVE YOUR DRYER SECTION A BREAK



Recently installed Fulton system on big, fast Fourdrinier in the South.



Smaller Fulton systems rapidly being installed on older and on smaller machines.

Fulton Dryer Drainage systems have been installed on practically every paper machine built in the past ten or fifteen years. Go back a little further and include older and smaller machines, and the total soars to some 900 installations.

Why are FDD systems in such general use—what do they do to rate such widespread acceptance?

- Automatic control of drying operation
- Proper graduation of temperatures
- Substantially faster drying
- More uniform drying clear across the sheet
- Less broke—far less broke
- Less shrinkage, cockling, curling or hardening regardless of grade

If yours is one of the comparatively few dryer sections still handicapped for lack of Fulton Dryer Drainage, get in touch with us at once. Give your dryer section a break.

**ROSS MIDWEST FULTON CORP.**

DAYTON, OHIO

A subsidiary of J. O. Ross Engineering Corporation

# Parsons & Whittemore

—the name for

pulp  
paper  
paper-making machinery  
graphic machinery

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**ANHYDROUS  
AMMONIA**

## **≡ Up to 25% More Pulp From Your Present Equipment—and Save Money**

Just minor adjustments to convert to Ammonium Bisulfite Pulping, as pioneered by the Nitrogen Division, and you get up to 25% more pulp from your present equipment. Screening rejects and screening time are both reduced.

### **HERE'S WHERE YOU GET MORE PULP:**

More thorough and faster penetration reduces cooking time up to 19%. The entire operation becomes less critical. You also have less trouble cooking different species of wood.

### **HERE'S WHERE YOU SAVE MONEY:**

**You can reduce maintenance!** Ammonium Bisulfite Pulping completely eliminates scaling of heat exchanger tubes, strainers and other fittings.

**You save about 40 lbs. of sulfur per ton of pulp stock!** With Ammonia the cooking acid combined can be lowered from 1.25 to 0.85 per cent.

**You save on handling cost!** Ammonia solutions are pumped directly into acid-making equipment, eliminating expensive handling of limestone in changing the towers.

There are still more advantages . . . advantages that lead pulp and paper specialists to call Ammonium Bisulfite Pulping the most important paper-making advance in three decades.

Ammonium Bisulfite Pulping is known best by Nitrogen Division engineers and technicians, pioneers in this process. For free assistance on converting to Ammonium Bisulfite Pulping call your nearest Nitrogen Division office.

Anhydrous Ammonia  
Ammonia Liquor  
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*Pioneer of Ammonium Bisulfite Pulping*

## **NITROGEN DIVISION**

ALLIED CHEMICAL & DYE CORPORATION

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## **INTERCHANGEABLE PARTS**

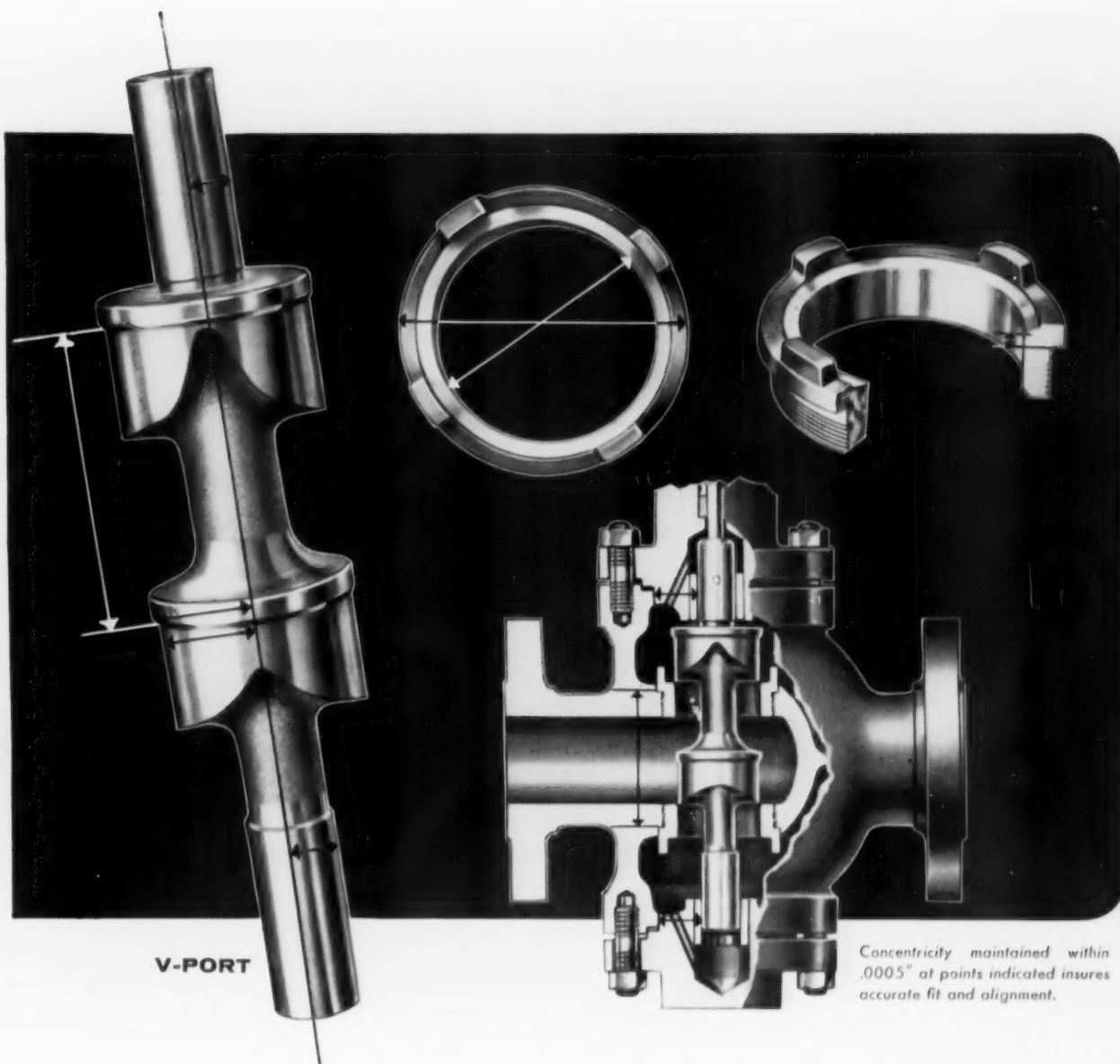
### *An Important Factor in Uniform Quality of Masoneilan Control Valves*

You have a right to expect to be able to install replacement parts without recourse to a machine shop for custom fitting. When you use Masoneilan Control Valves you *get* parts that fit. For Mason-Neilan precision methods, automatic machines and specially designed

tools and gages, plus rigorous inspection, eliminate the maintenance man's headaches and reduce costly time out of service.

By maintaining this precise uniformity, Mason-Neilan makes certain that every valve will be in perfect alignment and that any





parts you may install later will also be in perfect alignment.

Moreover, because valve plugs of comparable size but different flow characteristics are interchangeable, conversion is a comparatively simple operation.

These quality features,

added to other outstanding qualities of Masoneilan Control Valves, offer you low *cost* at comparable *price* — and over-all cost not price is the valid comparison.

Investigate the practical advantages of Masoneilan Control Valves.

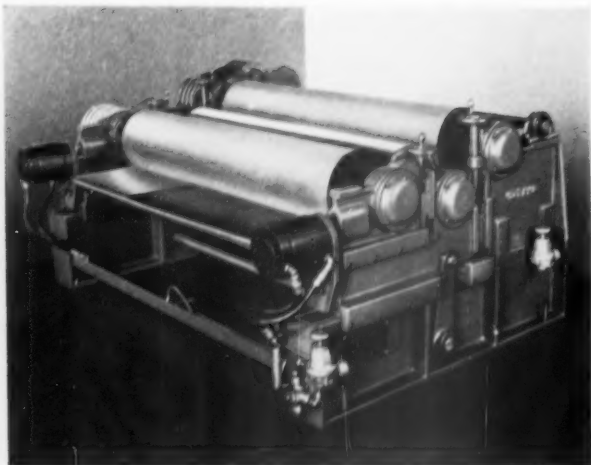
Write for complete data.



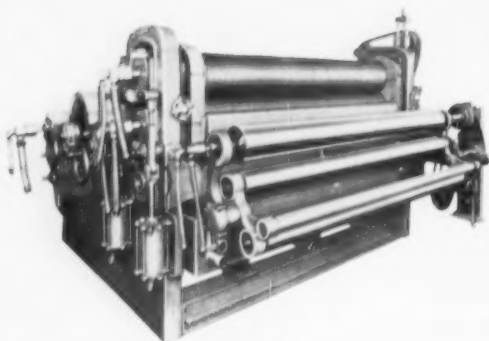
## MASON-NEILAN REGULATOR CO.

1181 ADAMS STREET, BOSTON 24, MASS., U. S. A.

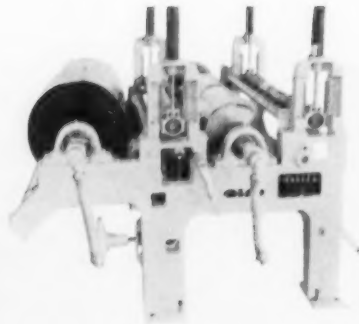
*Sales Offices or Distributors in the Following Cities:* New York • Syracuse • Chicago • St. Louis • Tulsa  
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Mason-Neilan Regulator Co., Ltd., Montreal and Toronto



1. Moisture Applicator



3. 3 Roll Wet or Dry Waxer



2. Hot Melt Coater

## Dilts COATING MACHINES FOR EVERY APPLICATION

Improved coating methods are constantly being developed, tried and proved at Dilts' modern coating laboratory in Fulton, N. Y. The combination of Dilts engineering and the practical experience of leading converters results in coating machines of advanced designs and superior performance.

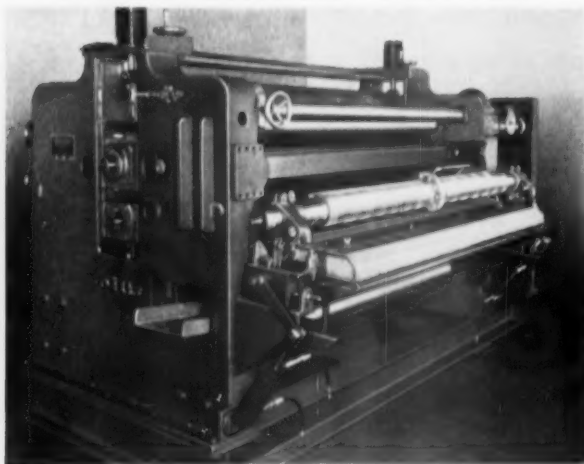
In all probability, Dilts has a machine to meet your specific coating requirement regardless of what materials are involved. If not, they have the facilities and knowledge to solve your problem. *When it comes to coating . . . come to Dilts.*



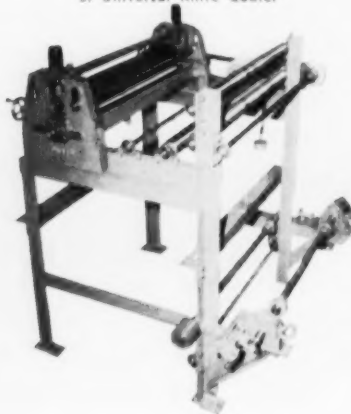
**THE BLACK-CLAWSON COMPANY**

DILTS MACHINE WORKS DIVISION • FULTON, N. Y.

4. Contracoater® Reverse Roll Coater with Warren Air Knife



5. Universal Knife Coater





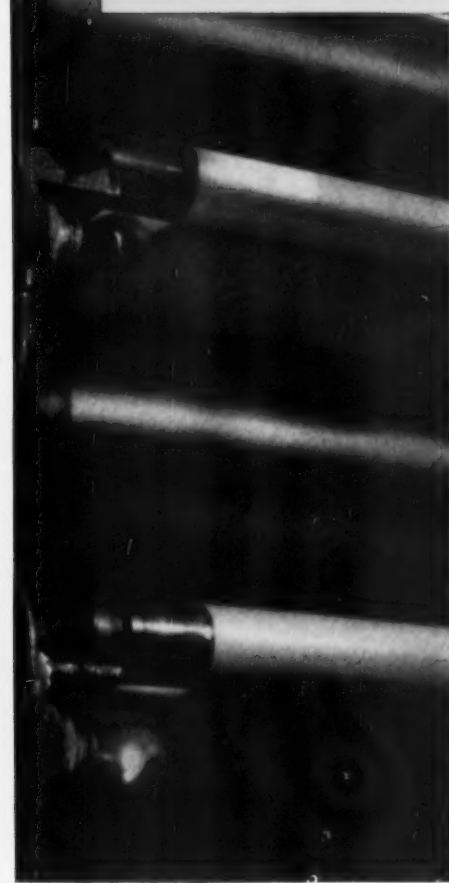
**Supercalendering  
without dust...**

**Coated papers  
without fish-eyes...**

**And a smooth  
casein or starch coating  
that resists picking**

*These are among the desirable results you get with*

## **NOPCO® COATING ADDITIVES**



Paper mills using Nopco coating additives separately or in combination report enthusiastically that they are getting these results.

Nopco ESI, a dispersed calcium stearate used in either conversion or machine coating formulas, improves the flow, gives an all-round smoother coating application. In supercalendering, it eliminates the dust that causes poor finish and resulting shut-downs. It greatly improves pick resistance and printability.

If *foam*—with its resulting fish-eyes and uneven splitting of the coating film—is one of your problems, a small percentage of Nopco 1407 takes it off your mind.

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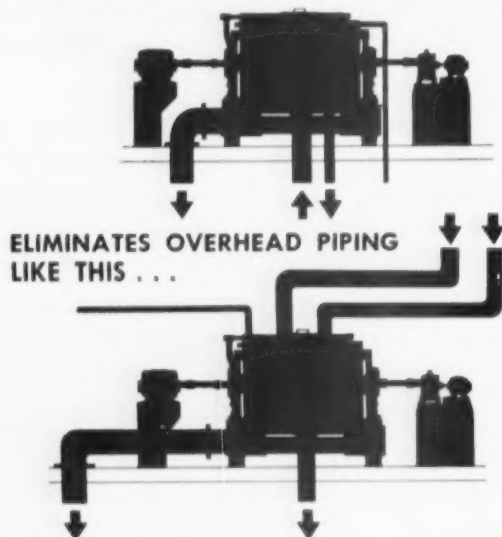
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## Calls GAW "Completely Negative"

Customer must eventually pay the price of guaranteed wage; change in structure of unemployment laws necessary

By Alexander R. Heron  
Vice President,  
Crown Zellerbach Corp.

● Whether any form of guaranteed annual wage would be a major force toward stabilizing any kind of employment has not been fully explored by anyone. The spokesmen for the guaranteed annual wage recruited a group of technical advisors, including some well-known economists, to advise on their proposals. It may or may not be significant that the findings of this advisory group have never been published by the group or any of its members, or by the unions who recruited them.

It is natural that all workers hunt for ways to insure their incomes on a fairly regular basis. And the union spokesmen are completely right when they emphasize the need for sustained and increased purchasing power to absorb the increased production of the economy. Would the guaranteed annual wage help to accomplish these results?

**ECONOMY NOT READY**—Our economy is not ready to say that a bankrupt buggywhip company must continue to pay its former employees their full wages for a year after it goes broke. Neither are we ready to say that a going company must pay wages for a full year to the men it no longer needs because a new machine can do their work. We are firmly committed to the idea that men who lose their jobs in this way must have temporary help while they are locating new jobs.

But the present drive proposes a cold war against this public policy. It attaches the displaced worker to his old job, his old employer, for as much as a full year. It would make him ineligible for unemployment compensation under the present law of every state of the union, because he cannot collect from the unemployment fund while he is receiving payments from his employer at the rates proposed by the guaranteed annual wage. Of

course, the advocates say these laws can be changed; but will they be changed? Not until the nation abandons the basic principle of our whole unemployment compensation system. That principle is that funds will be provided for the minimum needs of the unemployed worker while he is actively seeking a new job.

### UNION ARGUMENT OPPORTUNISTIC

—The 1955 proposals assume that the single company can do something about it. The argument is that if the employer is forced to provide this compensation to his employees when they are not working, he will see to it that they are kept working. The adoption of this argument by present-day union bargainers seems to be opportunistic. It has always been one argument in favor of individual employer merit rating in the unemployment compensation systems of the various states. The consistent position of the CIO has been against this argument, and against individual employer merit rating. It has contended that individual employers could not do much about the problem of unemployment, and that employers, therefore, should pay a flat rate of tax to accumulate funds for the relief of unemployment, regardless of whose covered employees were unemployed.

In many companies, all the profits can be used to pay or guarantee wages for a limited time, in some for a month, in some for a year. In some companies, not only the profits, but part of the capital investment could be used to pay wages or to guarantee wages for work not performed. But not for long.

The 1955 plans assume that money will be set aside while men are working, in order to pay somebody's wages while he is not working. But whether paid out in cash or set aside in a reserve fund, no part of wages can be continuously paid out of profits or capital, and still permit survival of the enterprise.

Both the wage rate, the overtime pay and the money for guarantee



ALEXANDER R. HERON — "A strangling cost burden—GAW."

funds must come eventually from the same source. That source is the customer who buys the product of the worker's work. The job of getting the dollars from that customer certainly starts with the premise that he has the purchasing power, as emphasized by Walter Reuther, president of UAW. But it also requires real effort by the individual company. In the case of automobiles, this means quality, style, price, advertising, and an adequate distribution organization for each company. We have seen major companies maintaining their sales and employment, while other important companies in the same markets have suffered drastic losses in their sales, their production and their employment.

### PRODUCT PRICE BIG FACTOR

—One factor in maintaining sales and jobs is the price of the product. Guaranteeing wages for time not worked to maintain the purchasing power of unemployed workers would also be a factor, but a very small one. If it could maintain the purchasing power of all the workers in the automobile industry; and if every employee in that industry used his sustained purchasing power to buy a new automobile in 1956, that would help a little. But those workers, at the same time, would take a corresponding amount away from the purchasing power of other workers to buy new automobiles. They would have added some \$30 to the cost of every automobile manufactured during the year.

In your job or in mine, or in the

automobile assembly plant, our wages and salaries are not provided by the other people in the same industry or the same institution. More than 98% of the wages for the people in the automobile industry must come from the purchase dollars of 60 million people employed in places other than the automobile industry. Will we really gain by forcing them to pay more money for the same number of automobiles, or to pay the same amount of money for a smaller number of automobiles?

**EMPLOYMENT PROGRESS SPECTACULAR**—The progress toward full and stable employment over the last 50 years has been spectacular. It has not been accomplished by negative measures. It is not the result of prohibiting technological progress nor of retarding it by artificial costs and penalties. The approach of the guaranteed annual wage, 1955 model, is as completely negative as the opposition of the English factory workers to the introduction of textile machinery a hundred years ago.

## Disagrees with GAW Speech

Industry leader asserts what Kuhn failed to say at Supts. Convention is more important than what he did say

• Last month, PULP & PAPER published an exclusive report on a speech made at the Superintendents Association's National Convention on the guaranteed annual wage—one of today's most controversial problems.

One of the foremost leaders of the American pulp and paper industry has written PULP & PAPER a letter, taking sharp issue with the views expressed by the speaker, Dr. Alfred Kuhn, teacher and writer on economics, who analyzed GAW as just another way to pay a wage boost, comparable to "fringe" benefits, and who said GAW would not interfere with industrial progress.

The author of this letter, widely known in the industry, had good ethical reasons for not wanting his name revealed at this time, but his views are representative of such an important management group, we are publishing them. Here is what he wrote:

**IN ACCORD WITH NAM VIEWS**—"Although I do not wish to be quoted at this particular time, I can assure you that I am in accord with the views expressed by the NAM and the reasons why it opposes the so-called Guaranteed Annual Wage (see page 43, August issue of P & P).

"I do not know anything about Dr. Kuhn or his background, but I think it is quite clear that he is not too orthodox in his economics. Furthermore his presentation is to me more eloquent by virtue of its omissions than by reason of what he says. I do not quarrel with the thesis that, so far as concerns any question of ability to pay, any fringe or the cost thereof, whether five cents per hour or some other measuring stick, has to a degree the same effect as if the same amount

were included in the wage paid at the time the service is performed.

"However, this does not go the full way in connection with all fringes and those fringes which involve payment for not working as contrasted with payment for working are clearly far more potent in leading us along the road to socialism than any increase in wages.

**CITES COAL INDUSTRY**—"Beyond this, Dr. Kuhn's argument seems to assume that no wage or fringe can have an effect in pricing the product and the labor involved out of the market. I think I need only cite what has happened in the coal industry as illustrating what I mean.

"I am in favor of high wages provided they are supported by high productivity, but I think there is a limit, and a very definite one, to the burdens that can be placed on industry or any private enterprise for that matter, as payments for not working, no matter what other names may be used to designate the particular type of payment. The position of many industries in Italy, The Netherlands and, most of all, France are illustrative.

"Finally, if Dr. Kuhn's thesis is correct that the supplemental unemployment payments by the automobile industry are merely payments by labor out of what they otherwise would receive as wages, why did the unions refuse to have their members vote the necessary assessment to set up their own fund, knowing that they had the power to force industry, because of their monopolistic position, to meet their demands wagewise, which they could then collect from their members on the assessment to establish their own funds?"

Is there a positive approach open to us? Can we find better protections for workers in American industry? My answer is that we must find them. They must be ways which will not freeze or lower our standing of living within the United States and which will not damage our competitive position in the world economy.

Certainly we need improvements in our present unemployment compensation systems. We may need some new kinds of temporary protection for declining industries and their workers. Those industries may need to modernize their products or create new products. They may need encouragement to make the heavy expenditures necessary for research, engineering, advertising or new equipment.

A time when the future existence of all the jobs in an industry is at stake is not the time to hasten the process of decline. The time which demands courageous expenditures of dollars is not the time to impose a strangling cost burden such as the guarantee plans could create.

In both the declining and the advancing industries, real employment security consists in creating and maintaining a healthy market for the products. When automobile sales are good, automobile jobs are steady and secure. When automobile sales are poor, the situation calls for something better than adding 30 or 40 dollars to the cost of each car. Certainly the social obligations of our economy require adequate transition help for those workers who are temporarily unemployed and want to work. But we do not progress by making those workers into able-bodied full-time pensioners of Ford or General Motors or of Michigan.

### Takes Issue with Use of Term 'GAW'

Dear Mr. Wilson,

With reference to the address made by Dr. Kuhn at the National Superintendents' Convention (P & P, August, page 43), there is one very important point we would like to emphasize. That is that the plans that confront us now (Ford, etc.) are *not* "Guaranteed Annual Wage" plans. Furthermore, the unions' demands of the past several years are not for guaranteed employment or other guarantees of the type which grew to be known by the "GAW" label, such as the Hormel plan to which Dr. Kuhn refers. Instead the union is now asking for SUC (Supplementary Unemployment Compensation) plans, and it is this integration with the state U. C. systems to which we are objecting.

CHARLES H. WEST  
Unemployment Benefit Advisors

# "New Deal" on Unemployment Benefits?

Will Ford-GM agreements upset basic concept of unemployment benefits? Will some employers pay for others?

By Stanley Rector  
Legislative Director  
Unemployment Benefit Advisors, Inc.

(Written especially for  
PULP & PAPER magazine)

● Two items of the new agreement between the CIO and both Ford and GM are of primary concern to employers throughout the nation:

1. The first is that state benefits are to be supplemented by private benefits.

2. The other is that action by several states to permit such supplementation is necessary before the benefit payments under the plan may proceed.

One reason given by unions for the supplementation is that they can thereby enlist or even coerce employer support to liberalize state laws to provide larger dollar amounts of unemployment benefits for longer periods.

Their success in raising old-age benefits under the social security program by this method is the precedent on which this reasoning is based.

## HOW UNION'S ARGUMENT ERRS

—But there is an essential fallacy in the union's basic argument. Government policies in the OASI field have all been designed to encourage the development of private pension plans, and no public policy consideration operates to restrict private supplemental pensions.

Not so in the case of unemployment compensation. State legislatures have made it clear that they believe that the incentive to work will be impaired if benefits are not appreciably less than wages. Thus most states, under present laws, would view the amount of idle-time pay as "wages"—deductible from state benefits.

By permitting this supplementation the state legislatures would in effect be abdicating their responsibility to determine public policy for the unemployment compensation program. In particular they would be admitting that benefits are too low, and that benefits could be raised to any level that private parties might establish without affecting the incentive to

work and the mobility of our labor force.

## HOW IT WORKS IN MICHIGAN—

Let us consider the application of the plan in the state of its origin, to see how established legislative principles would be violated. The Michigan legislature has adopted the principle of varying the maximum unemployment compensation to provide, for example, for \$12 more benefits for a man with a wife and one child than for a single person. This plan would reduce the differential to about \$3.

In fact, the plan would superimpose, for workers covered by it, a nationwide level of benefits, even though the benefits may, in some states, approximate the average wage of all workers in the state.

Another fallacy of the argument for the supplementation scheme is that financing is entirely different. Social security benefits for old-age are financed by a uniform tax, and the cost will not be made more or less by private pensions.

Again, it is not so in unemployment compensation. Every state relates an employer's tax payments to his experience with unemployment, up to a fixed maximum rate. In fact, in most states an employer with fairly regular employment (e.g., pulp and paper mills) will keep up his "reserve fund" by replacing 100% of the benefits paid to his workers. In addition, he may pay some contributions over and above this amount because other employers have irregular employment. These other employers are relieved by the limit on the contribution rate from paying enough to maintain an excess of contributions over benefits.

## CAN EMPLOYER SAVE MONEY?

**AT WHOSE EXPENSE?**—Yet the mistaken notion appears—in employer as well as labor quarters—that by having state benefits increased, an employer with a private plan can save money. How and at whose expense?

It can readily be demonstrated that an employer with fairly regular employment (as in the pulp and paper industry), will in most states completely replenish moderate benefit payments by moderate contributions.

Certainly all will agree that he alone pays for his private plan. Since he pays the whole bill in both programs, he may as well pay all the idle-time or "stand-by" benefits from his private fund. The only reason for wanting state benefits to be raised would be to get them high enough to make his private plan unnecessary and thereby save the expense of a separate administrative machine. But if state unemployment compensation benefits were increased very much, the cost would be felt by the thousands of other employers without private plans, who would have to pay the added contributions needed to support the higher benefits.

## WHAT MAY HAPPEN TO "PRIVATE PLAN" EMPLOYER—

Let us return to our employer with a private SUC plan who, with regular employment, pays the whole cost of unemployment benefits to his workers, whether by supplementation, or by increased state benefits alone.

Suppose our private-plan employer ran into an extended slack period in his business (as, for example, some manufacturers of agricultural implements and autos have done recently.) Benefits to his workers from state funds could easily exceed all the surplus he had accumulated in his state U.C. "reserve account" and thereafter become a charge to be shared by other employers in the state (including pulp and paper). Only in this situation would the "employer with the plan" save any money by having more benefits come from the state fund and less from his private fund.

## "EAGER BEAVER" WORKER

**LOSES**—Another basic defect in the supplementation scheme is the discrimination against workers not protected by a plan. Here is Worker A who gets \$30 as his state benefit and would under a private plan get \$25 from the company fund—total \$55 for doing nothing. Here is Worker B who gets \$30, but is not covered by a private plan. Being an eager beaver, he finds some work for 2 or 3 days and earns \$35. The result is he gets no benefits—for doing something.

We may still do something to prevent the shift in the conception of

state unemployment compensation from its present role as a floor under income to a mere basis for erection of a system of full-time wage protection.

Recall our second item, that there is a condition on the starting time of these supplemental benefit plans. The supplementation feature must have the approval of Michigan and several other states before June 1, 1957, or the plans terminate. These states must include those in which two-thirds of the UAW workers are employed. Other leading states in the manufacture of automobiles and parts include Ohio, Indiana, New York, California, Wisconsin, Illinois, Pennsylvania, Missouri, New Jersey and Kansas.

In conclusion it might be noted that the acceptance of the plan left a distinct reservation in the minds of one of the two signatory companies. Harlow H. Curtice, GM president, after signing the plan, said, "We still hold earnestly to the belief that the responsibility for such matters as the amount and duration of unemployment benefits rests with the legislatures of the various states."

*(Persons interested in a more complete discussion of the technical aspects touched on here may have a copy by writing to Stanley Rector, Unemployment Benefit Advisors, Inc., Hotel Washington, Washington 4, D.C.)*

## First of Forest Industries to Head NAM

• On Dec. 8 next, the first of over 50 presidents of the National Association of Manufacturers to be drawn from the pulp, paper, paperboard or any forest products industries is scheduled to assume that office.

Wisconsin-born Cola G. Parker, retired president and chairman of Kimberly-Clark Corp., was nominated for this honor last Dec. 2 at the same time that he was elected the only national vice president of NAM (the other 5 v.p.'s are regional).

Recently Mr. Parker stepped down from the Kimberly-Clark board chairmanship, but he continues to use offices in company headquarters at Neenah, Wis. As the first president of NAM from this industry or any forest products industry in its 59 years' history, his job will require almost full time and considerable travel.

NAM presidents serve only one year, but custom has been to elect them to the chairmanship of the NAM board, then of its executive committee, then of its finance committee, in succeeding years.

Mr. Parker joined K-C in 1927, after 25 years as an attorney in Chicago and New York. He served as legal counsel,

## Why Kraft Mill Won Paint "Damage" Suit

• In a case which may set a legal precedent for court decisions in future similar actions, a kraft pulp mill was recently held responsible for no more than \$7.50 "worth" of alleged damage to the white paint on a nearby home owner's dwelling.

The case was important to the entire chemical pulping industry, because such decisions against a pulp and paper company could "pull the trigger" on a whole procession of similar claims, costing many thousands of dollars.

As it turned out, in this case, the plaintiff substantially lost his \$2,000 damage suit which lasted through a full five days.

**SIGNIFICANCE OF TRIAL.**—It was a jury trial, which many court veterans consider significant, for generally a big corporation would be expected to have a harder time winning such a trial against individual home owners.

Half of the \$2,000 was sought for alleged paint damage caused by pulp mill fumes. A jurymen indicated to a reporter that the jury decided the repairs would only cost \$750 and that the home owner was entitled to only 1% of this amount from the mill owners. This count was decided by an 11 to 1 vote. The jury consisted of 11

men and 1 woman. It deliberated 4 hours.

**SECOND COUNT THROWN OUT.**—The second count for the other \$1,000 was thrown out by the jury, as it decided unanimously in favor of the pulp mill company. On this count, the owner wanted \$1,000 for "personal annoyance and inconvenience" including "repeated nausea" and headaches, all blamed, of course, on the kraft mill odors.

There was a total of 15 witnesses, including experts on paints and chemicals, and two pre-trial depositions were read.

Sufficient quantities of sulfur compounds, plus moisture, could sometimes create a chemical reaction that would convert white lead of paint into lead sulfide, some of the witnesses said.

**EXPERT INSPECTS HOME.**—One research authority, from a metropolitan area over 1,000 miles away from the mill town, was brought in to inspect the home and make chemical analyses of paint samples.

He testified that virtually all the paint damage actually was the result of other causes—including peeling, cracking, checking, chalking and rusting of nail heads. Only 1% was "bilging"—the term used to describe what sulfurous compounds in the air and moisture could cause.

The defendant in this suit was Potlatch Forests, Inc. of Lewiston, Idaho. The mill in question has modern electrostatic precipitators for control of stack gases and an absorption tower which essentially eliminates escape to the atmosphere of any odor from the digesters or evaporators.



Wisconsin - born COLA G. PARKER—will be first of forest industries to head NAM.

then as vice president, and from 1942-53 as president. From 1953-55, he was chairman. He is a past president of APPA.

In 1953, President Eisenhower named him to the Randall Commission on Foreign Economic Policy. Later he was advisor to the U.S. delegation at the Geneva tariff conference. Mr. Parker is a former chairman of the National Industrial Conference Board. In 1954 he became chairman of the Federal Home Loan Bank of Chicago.

When the NAM board holds its organization meeting Dec. 8, Mr. Parker is already assured the votes that will put him in the top office, succeeding President H. G. Riter 3rd of Thos. A. Edison, Inc.

## "As Others See Us" French View of GAW

GAW may put a damper on the "dynamic energy" of American industry, says our contemporary magazine of Paris, "Papier, Carton et Cellulose." This was its commentary:

"If, in the U.S.A., statistics show a generalized industrial recovery and may lead to an optimistic outlook, we may say nevertheless that the collective agreements granting an annual guaranteed wage might be the first sign of a revolution in this country which might lead, as far as the American man-in-the-street is concerned, to some feeling of security, resulting in a decrease of the dynamic energy which has so far characterized American economy."



## Two Big New Mills for Southwest Alabama

Chas. T. Main Inc. has been working many months on plans for fully integrated mill for Marathon Corp.

● Way back in the Dec. 1954 issue of PULP & PAPER, the exclusive first report was published that Marathon Corp. had engaged Chas. T. Main, Inc., Boston engineers, to plan a new pulp and paper mill for that company and that one Alabama site had been rejected, but others were being considered.

Now, at long last, these plans of Marathon for its first operations in the South have been officially announced, with the purchase of a plant site in the vicinity of Myrtlewood, Ala. (see map). Also Marathon has purchased for cash the 50-mi.-long Meridian & Bigbee Railroad and its diesel-powered equipment from the Reconstruction Finance Corp. The railroad runs between Meridian, Miss., and Myrtlewood. At Meridian it connects with 4 other major r.r. lines.

This announcement by Marathon came hot upon the news of its acquisition of the 450-tons per day Michigan Carton Co., Battle Creek, Mich., which has purchased considerable bleached sulfite and other pulp for its varied products.

It also came quickly after Gulf States Paper Corp. announced its plans to go ahead with a bleached kraft pulp mill at Demopolis, to be completed by late 1956, and to offer the pulp for sale, or whatever is not converted at its Tuscaloosa mill.

### ENGINEERS LONG ON THIS JOB

—The Chas. T. Main consulting engineering firm has been working on the mill plans for Marathon for many months, at least since the early fall of 1954, so these are obviously well-developed by now.

Several Northern and other interests have long been eyeing this region near the Alabama-Mississippi line as suitable for new mills. Ample wood, sufficient water, transportation facilities and room for expansion—all these factors made it most attractive. PULP & PAPER carried reports of several projects that might have brought mills to Butler, Ala., and other sites. A Choctaw Pulp & Paper Co. was organized and dickered with big companies in the pulp and paper industry for partnership or support. Choctaw county is just across the Tombigbee River from Myrtlewood. It is on this river that Marathon's mill will rise. The site is just 120 miles north of Mobile, where International Paper is expanding, with a new newsprint mill and other ex-

pansion, and Scott acquired the H & W properties.

Also in southwest Alabama, but about 80 mi. southeast of Myrtlewood, is Brewton, long-discussed mill site, where a "nose count" of residents showed 3,836 voting for a new mill "stink and all." Only 11 were against a proposal which had been made to local interests.

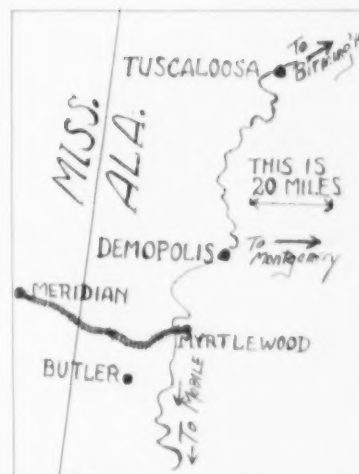
Also in the July issue this year of PULP & PAPER, it was reported Marathon was considering a Southern site. President John Stevens, Jr., of Marathon said going South "was almost inevitable."

### Work To Begin On Demopolis Mill

Construction of a new 300-ton-per-day market bleached woodpulp mill near Demopolis, Ala., will be started in November by Gulf States Paper Corp. Both softwood and hardwood will be pulped at Demopolis. Production is to begin before Christmas, 1956.

Mill site will be a 1500-acre tract 8 miles southwest of Demopolis on U. S. Route 80, but only 6 miles downstream on the Tombigbee River. H. K. Ferguson Co., Cleveland, are engineers.

Gulf State's mill at Tuscaloosa, Ala., has a 400 ton daily capacity, producing both bleached and unbleached bag and wrap. Tuscaloosa and Demopolis are connected by the Black Warrior and Tombigbee Rivers, with barge route connection.

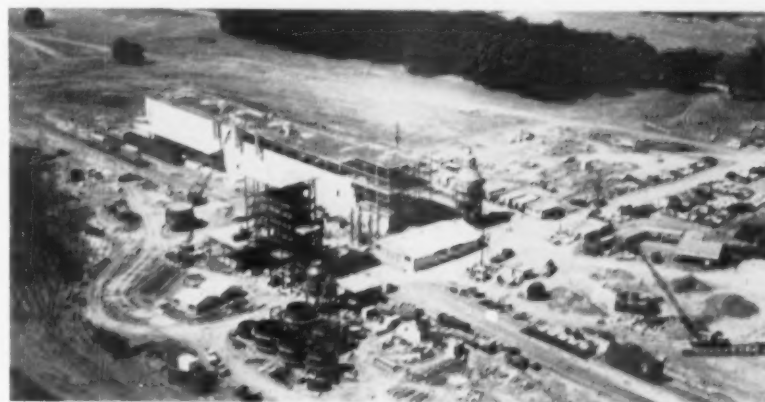


### Where New Mills Will Rise in South

MARATHON CORP.'S new pulp, paper and paperboard mill will be built near MYRTLEWOOD, Ala. The site is on Tombigbee River, shown winding half-way around the town. Only about 20 miles away, at DEMOPOLIS, the new bleached kraft pulp mill of GULF STATES PAPER CORP. will rise, first production being for market. This company's present pulp and paper mill is at DEMOPOLIS. Marathon has purchased the 50-mile railroad between MERIDIAN and MYRTLEWOOD. BUTLER had long been rumored as a possible site for a new mill in the South. That's out, now.

### And So, Back to Russia

Several U.S.A. paper mills were relieved of what might have been a problem. Eleven Russian technicians, on their way, they thought, to visit U.S. Southern and other mills, were halted in Britain to be finger-printed. They refused to submit—the trip ended there.



### Progress at Western Kraft Corp. Container Board Mill

At Albany, Ore., this container board plant is under construction for Western Kraft Corp. Pres. IRA C. KELLER, Portland, says it "will be in production by Thanksgiving." Plant is designed to operate exclusively on by-product wood from sawmills and veneer plants.

## Work Begins on Big Alberni Expansion

First pile for the foundation of MacMillan & Bloedel's newsprint mill and expanded pulp plant at Port Alberni, B. C., was driven recently at a ceremony in which Premier W.A.C. Bennett of British Columbia officiated. He and several members of his cabinet were introduced to a gathering of 150 by H. R. MacMillan, chairman of the M&B board, and Clifford Crispin, vice president of the pulp division.

Mr. MacMillan said that his company's expansion was in the line of making fullest possible use of raw material. At Port Alberni, it already has sawmills, shingle mill, plywood plant and an unbleached sulfate pulp mill. Now it is to have a newsprint mill, board mill and expanded pulp capacity, costing some \$35,000,000. The pulp mill will produce about 400 tons daily when the addition has been provided. Newsprint output will be 100,000 tons annually, but provision is made for a second machine when required. A multi-purpose kraft paper mill is to be built as well as the container board plant.

All in all, M&B's operation at Port Alberni will soon be one of the most fully integrated in the industry, rivaling Gatineau, Que., and Longview

and Everett, Wash.

Mr. MacMillan said this expansion would not have been possible without the provincial government's forest management license system which insured a continuing supply of wood.

Premier Bennett paid a tribute to Mr. MacMillan, whose career he said should be an inspiration to young British Columbians. The premier recalled that Mr. MacMillan had started as a forester and he had envisioned the possibilities of forest industry and capitalized on a "dream" that paid off in creation of one of the world's great wood-using corporations.

Many executives of the MacMillan & Bloedel organization attended the ceremony, including Vice President Ralph Shaw, Vice President Harry Berryman, Sid Smith, director, James Petrie and Ross Eadie, manager and chief engineer, respectively, Port Alberni pulp division; Larry Harris, manager of the Harmac division; E. W. Locke, general manager, pulp division. Howard Simons, consulting engineer, who designed the Alberni and Harmac pulp mills and who is also planning the expansion, was present, as were William M. Barrett, New York; Nelson Mead, Dayton, O., and



### See Start of New Mills

Proud participants in MacMillan & Bloedel's expansion were these three (top, l to r): HOWARD A. SIMONS, Consulting Engineer; CLIFFORD CRISPIN, Vice President, M&B, in charge of Pulp Div.; LARRY HARRIS, Manager of Harmac (B.C.) Mill. At ground-breaking ceremony were these three executives of Mead Pulp Sales, Inc., which markets Alberni sulfate pulp (below, l to r): WILLIAM M. BARRETT, from New York; NELSON MEAD, from Dayton, O., son of Geo. A. Mead, former Pres. and Chairman of Mead Corp.; and DAVE BRITTAI, of Chicago.



**JAMES PETRIE**, Mgr. of Port Alberni, B.C., Pulp Mill, who will direct expanded operations when program is completed.

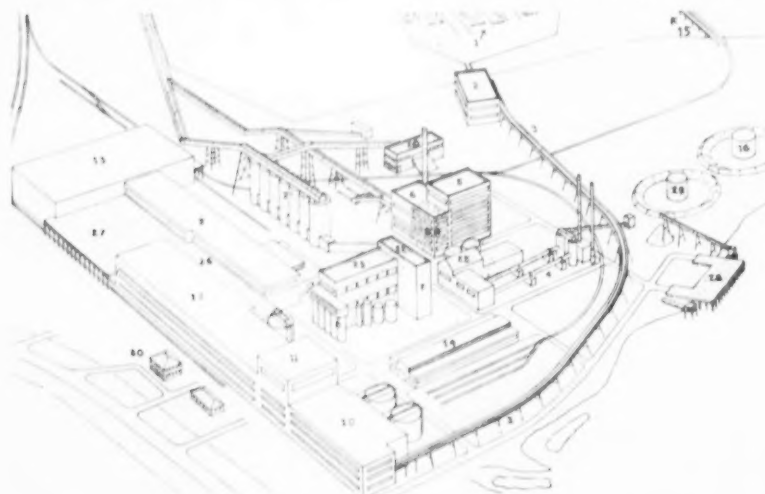
Dave Brittain, Chicago, executives of Mead Pulp Sales Co., which markets Port Alberni sulfate pulp.

As part of a trip to various West Coast operations in August, a large delegation from the Association of Pulp Consumers Inc., including top executives of many eastern paper companies, were making a tour by yacht and bus to the Alberni and Harmac mills in late August as guests of MacMillan & Bloedel.

### Now Harmac Will Have Odor Control Plant

A quarter of a million dollars is being spent by MacMillan & Bloedel Ltd., to reduce pulp mill odors at its Vancouver Island operations at Harmac and Port Alberni.

Complete elimination of odor is not yet possible, according to C. W. E. Locke, general manager pulp division, but the success of an experimental installation at the Port Alberni un-



### How Expansion Will Be "Shoe-Horned" into Existing Port Alberni

New Facilities		
1 Log Pond	7 Digester Extension	12 Newsprint Machine Room
2 Wood Room	8 Pulp Storage Tanks	13 Warehouse
3 Wood Flume	9 Specialty Paper Machine	14 Machine Shop & Mill Stores
4 Lime Kiln	10 Grinder Room	15 Deep Sea Wharf
5 Recovery Building	11 Screen & Bleach Plant	16 Additional Oil Storage
6 Boiler House	Existing Facilities:	
	24 Recovery Furnace	27 Pulp Warehouse
20 Wood Room	25 Reausticizing Building	28 Wharf
21 Chip Silos	26 Pulp Drying & Machine Room	29 Oil Storage
22 Digester Building		30 Main Office
23 Kraft Washing & Screening Plant		

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## **DIRTECS**

**for efficient, economical, thorough  
separation and complete removal  
of dirt from pulp or paper stock**

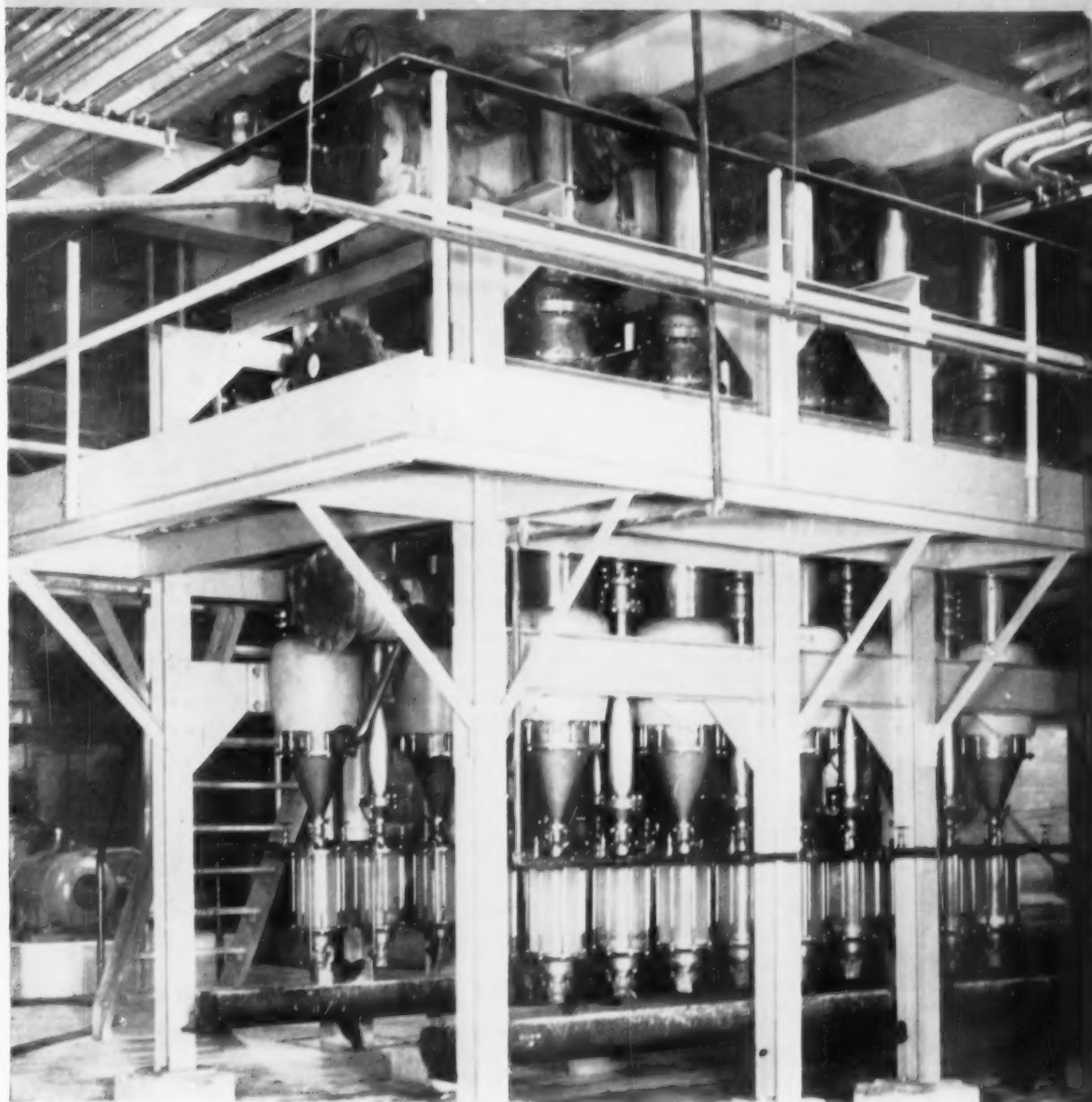
**P**ictured is a battery of King Size (1200 gpm capacity per unit) Dirtecs taking the shives and dirt out of 360 tons of pine groundwood per day.

Dirtecs meet a wide range of dirt removal needs, whether on big volumes of pulp or board stocks, ahead of the paper machine or as tailings units for Bird Screens. They are available in regular or king size and may be equipped with continuous, automatic dirt evacuators when desired.

Let us make recommendations, layouts and estimates.

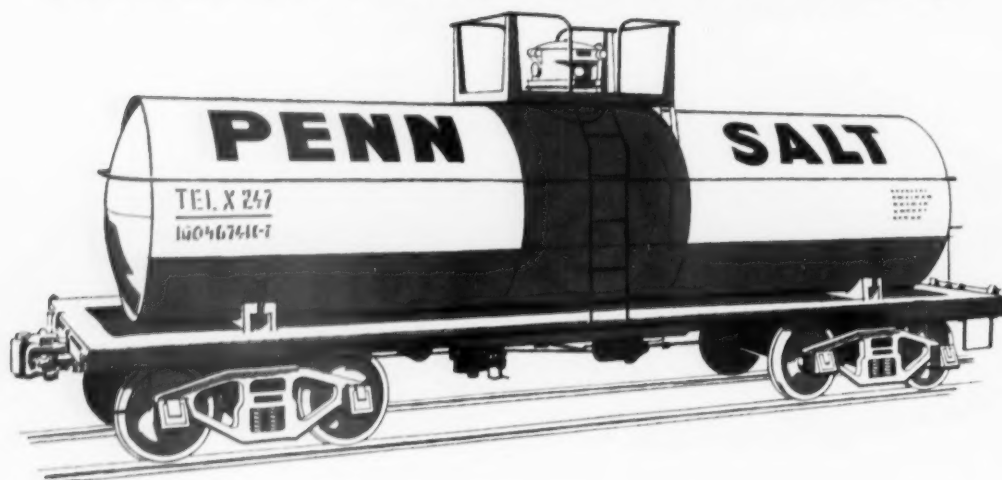
**BIRD MACHINE COMPANY**  
**South Walpole, Mass.**

Regional Offices: Evanston, Illinois  
Portland, Oregon • Decatur (Atlanta), Georgia



# NOW the BIG 4

## Pennsalt Basic Chemicals for *Refined Pulp*



**1 Chlorine**

**2 Caustic Soda**

**3 Sodium Chlorate**

**4 ANHYDROUS AMMONIA**

**L**ONG a supplier of Chlorine, Caustic Soda and Sodium Chlorate to the pulp and paper industry, PENNSALT now offers ANHYDROUS AMMONIA.

Because of the current attention and interest in the ammonia-base pulping process, PENNSALT has constructed facilities at its Portland plant which is now producing anhydrous ammonia. This ammonia process, although not a new development for the manufacturing of sulphite pulp, has many advantages: ease of waste disposal, increased production through reduction

of cooking time and greater utilization of all woods. These advantages tend to reduce costs.

PENNSALT sodium chlorate produces chlorine dioxide which helps bleach wood pulps whiter and brighter with less deterioration of strength.

In addition to supplying chemicals of uniform quality, PENNSALT offers the assistance of its Technical Service Department.

Strategically located plants at Tacoma and Portland offer fast delivery and service.

Please write or telephone for detailed information on PENNSALT'S Big 4.



### OFFICES AND TELEPHONES

Tacoma, Market 9101

Portland, ATwater 7655

Los Angeles, Jefferson 6244

Philadelphia, LOcust 4-4700

Berkeley 4, Calif., ASHberry 3-2537

**PENNSYLVANIA SALT MANUFACTURING  
COMPANY OF WASHINGTON**

Tacoma 1, Washington



bleached pulp mill resulted in the building of a full-scale device at Port Alberni and its duplication, with some improvements, at the company's bleached sulfate pulp mill at Harmac.

The process, developed by Dr. R. H. Wright and staff of the British Columbia Research Council, is somewhat similar to that in use at some Weyerhaeuser and other mills in the U. S., but is believed to be a step ahead of projects aimed at the same objective in Canada.

Oxidation of black liquor at the MacMillan & Bloedel mills takes place in a series of 32-ft. towers. Weak black liquor, separated at the washers, is brought to the towers; it enters at the top and is distributed over patterned sheets of a special cement-asbestos material.

Air is forced into the tower tops, oxidation takes place while liquor and air travel downward. Air is vented from the tower bottoms, oxidized liquor collects in sumps and is pumped to the evaporators. Non-condensable relief gases from the digesters are handled in the same way. There is consequently a reduction in volume of odorous gases from the recovery stack.

Harmac already has a successful scrubbing device for gases from the bleaching process.



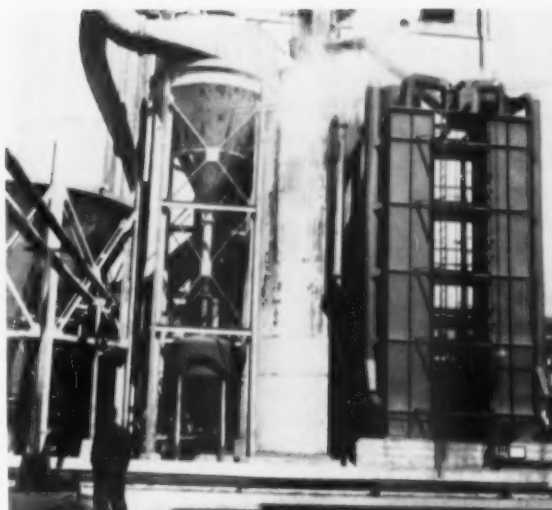
RALPH M. SHAW (left), Vice Pres. in charge of Sales, MacMillan & Bloedel, has taken over direction of the company's pulp as well as other product sales. In the past pulp sales have been under direction of CLIFFORD CRISPIN (right), Vice Pres., Pulp, who now is able to devote all his attention to manufacturing phases.

#### Work Proceeds On New Longview Fibre Mill

Work started on No. 7 machine addition at Longview Fibre Co. plant, Longview, Wash., in August with driving of piling and, according to Vice Pres.-Res. Mgr. R. S. Wertheimer, construction will get underway immediately after Labor Day. Howard S. Wright & Co., Inc., Seattle, holds contract for erecting the building and installations. Longfibre's engineering department, headed by

#### Success in Abating Odors

This apparatus, installed outdoors at the MacMillan & Bloedel kraft mill, Port Alberni, B.C., has been so successful that similar unit will be built at the company's Harmac, B.C. mill.



Chief Engr. V. M. Sutherland, is handling process design for the 150-250 ton per day paper-paperboard addition.

Rice Barton Corp. is building the wet end of the machine, the differential mechanical drive and all presses; Bagley-Sewall Div. of Black-Clawson the complete dryer section, calender stacks and reel; Beloit Iron Works the winder and unwind stand. Other selected equipment includes Oliver pulp washers, and three 4400 cu. ft. carbon steel digesters, to be built by American Tank & Construction Co., which will be lined with carbon brick by Stebbins Engineering.

#### Crown Z To Make Tissue in Los Angeles

Crown Zellerbach Corp. is installing a tissue machine at the firm's Los Angeles converting plant for mid-October start-up, according to a late company announcement. The machine, a 91-in. trim unit being built by Beloit Iron, will produce Zee tissue for this rapidly growing area.

No pulp will be produced at this plant; it is to be shipped in from Camas and other Pacific Northwest mills.

The new tissue mill, a compact installation, will for the first time enable the firm to produce paper right next to the converting equipment in the heart of a metropolitan sales market, according to the announcement.

#### Two More Mills Resuming Operations

With paper and board business booming, two idle mills are being brought into production—one in New York and one in Ohio.

Container Corp. of America reopened its Red Bank mill in Cincin-

nati, 200 tons a day capacity, in August, but only one machine was to be operated.

Harrisville Paper Corp., Harrisville, N. Y., also was resuming operations. It is expected future business will make it possible to maintain continuous operation. The Harrisville mill, formerly owned by St. Regis, will, for the present, make newsprint. It is expected that groundwood specialty papers will be manufactured in the future.

It has two 114-in. Fourdrinier paper machines, with a capacity for 70 tons of groundwood specialties daily, and a groundwood mill, with capacity of 42 tons daily.

#### New Wood Fiber Plant Is Going Up

Barrett Division, Allied Chemical & Dye Corp. has started construction of a new 125-ton insulation board plant (350,000 sq. ft. day, 5-in. basis) at Sunbury, Pa. Upon completion next spring, it will produce an extensive line of wood fiber insulation products, decorative and acoustical tiles, and roof materials.

The operations, housed in a former Westinghouse television plant, will produce products by wet process from wood grown in the area.

Facilities include digesters by Pandia division of Black-Clawson, Bauer Bros. refiners, Bagley-Sewall (division Black-Clawson) forming machine and Coe kiln.

Johnson & Johnson, Inc., has been engaged as consulting engineers. Detail and design engineering are carried on at J&J's Chicago headquarters; the Portland, Ore., office, headed by C. C. Stewart, formerly chief engineer of Oregon Forest Fibre Products, Inc., is handling layout and flow-sheet.

**"INSATIABLE APPETITE FOR PULP"**—There "appears to exist an insatiable appetite for woodpulp" in the world today, according to Lawson Turcotte, president of Puget Sound Pulp & Timber Co. and also of Ketchikan Pulp Co., two major worldwide suppliers.

"United States production of woodpulp is running 11% ahead of 1954, the biggest year up to now, and consumption of imported pulp is also on the increase in the U.S.A.," he said. "Exports of American-made pulp are rising as other countries step up their consumption."

U.S. pulp production soared to 8,523,000 tons for first 5 months of 1954; exports more than doubled in that period, rising to 243,000 tons.

**RUSSIA SELLS PULP IN FRANCE AND BRITAIN**—

World Paper Trade Review of London reports that Soviet Russia has sold substantial quantities of unbleached kraft pulp in Britain. It has sales agents in various points in Britain, selling to mills there. Also, it recently sold 3,000 tons of kraft pulp in France. According to the London publication, Russia exported 26,400 short tons of pulp last year and imported 19,000 tons. Nearly half of this was groundwood.

**WOODPULP MAKES DRIVING SAFER**—The American Rayon Institute, New York, has been running big color ads in America saying that "Rayon Hi-Test Tubeless Tires" are the "greatest safety advance since the 4-wheel brake was introduced in 1923." They are said to virtually eliminate blow-outs. Rayon cord for tires is an end product from high quality dissolving woodpulp.

**SWEDISH COMPANY'S SALES UP 20%**—AB Statens Skogsindustrier, Swedish state-owned company with two pulp and paper mills, 12 sawmills and two wallboard plants, as well as plants to make prefabricated houses, joinery, etc., reported sales up 20% in 1954 to 180,000,000 kroner (equal to 12,400,000 British pounds sterling or 35,000,000 U.S. dollars). Gross profit rose from 20,100,000



**First Picture of New Dissolving Pulp Mill in Mexico**

Here is the first picture to be published outside Mexico of the new pulp mill of Celulosa de Chihuahua, S.A. Engineering and construction is being carried out by Snia Viscosa, a Milan, Italy, firm which has engineered and owns rayon-pulp mills in that country and others. It owns 25% of the Mexican company and is committed to buy any surplus the Chihuahua mill may have which is not absorbed domestically at international prices. It is scheduled to start commercial production by the end of 1955. Supervisors are being engaged. It is 50% government-financed.

**EDITORS NOTE—**

Worldwide commerce in woodpulp is setting new patterns as well as new records. As a service to many subscribers to PULP & PAPER in other countries, we are now publishing this news in both Spanish and English.

Subscriptions to PULP & PAPER may be paid in pound sterling to: Harold P. DeLooze, Ltd., 8 Peter St., Manchester 2, England. Three years, £3.12.6; two years, £2.10.0; one year, £1.9.0.

**"APETITO INSACIABLE"**—Hoy día parece que el mundo industrial tiene un apetito insaciable por la pulpa de leña, según el Sr. Lawson Turcotte, presidente de la Puget Sound Pulp & Timber Company y de la Ketchikan Pulp Company, dos de las mayores empresas de la industria.

"En los EU" dice el Sr. Turcotte, "actualmente se produce el 11% más que en 1954, y se consume también más que antes. En otros países también aumenta el consumo y asciende la exportación de pulpa norteamericana."

La producción de pulpa en los EU llegó a 8,523,000 toneladas en los primeros cinco meses del corriente año. La exportación aumentó más del doble, ascendiendo a 243,000 toneladas.

**LA URSS VENDE EN FRANCIA Y BRETAÑA**—La World

Paper Trade Review de Londres declara que la Unión Soviética ha hecho ventas gruesas de pulpa kraft sin blanquear a las fábricas de la Gran Bretaña. Últimamente también se vendieron 3,000 toneladas de pulpa kraft en Francia. Según la revista citada, la Unión realizó exportaciones de 26,400 toneladas de pulpa en 1954, e importó 19,000 toneladas.

**PARA MAYOR SEGURIDAD**—La American Rayon Institute sigue publicando grandes anuncios en las revistas norteamericanas declarando que las llantas de rayón sin tubo interior son "el mayor desarrollo en la seguridad de los autos desde que se empezaron a usar frenos en las cuatro ruedas." Se dice que dichas llantas son prueba casi completamente contra reventos.

**AUMENTO DE VENTAS**—AB Statens Skogsindustrier declara que las ventas durante el año 1954 ascendieron el 20% más que el año anterior. La empresa es propiedad del estado y posee dos fábricas de pulpa y papel, doce aserraderas, dos fábricas de cartón y fábricas de casas completas y de obras de carpintería. Las ventas durante 1954 fueron a 180,000,000 kroner o sean 12,400,000 libras esterlinas o 35,000,000 dls. Las ganancias ascendieron a 33,800,000 kroner; empero, el neto de ganancias fue igual al de 1953, 2,480,000 kroner o sean 171,000 lbs. o 480,000 dls.



**Primera Foto**

He aquí la primera foto publicada fuera de México de la nueva fábrica de pulpa de la Celulosa de Chihuahua, S.A. La ingeniería y construcción fueron obra de la Snia Viscosa de Milán, empresa que ha funcionado en otras plantas y posee suyas propias en México y otros países. La Snia retiene el 25% de la empresa mexicana y se compromete a aceptar pulpa producida en la planta que no se haya vendido en México a precios corrientes. La fábrica iniciará producción regular para el fin del año 1955. Actualmente se están contratando empleados de grado superior. La empresa goza de 50% financiamiento de parte del gobierno nacional.

Hoy día en el comercio mundial de pulpa se están realizando grandes cambios, al mismo tiempo que dicho comercio aumenta notablemente. Con el anhelo de mejor servir a nuestros muchos lectores, mensualmente publicamos nuestras noticias mundiales en español e inglés.

Abonos de subscripción a Pulp & Paper pueden pagarse en libras esterlinas a la casa Harold P. deLooze, Ltd., 8 Peter Street, Manchester, Inglaterra. Tres años, £3.12.6; dos años, £2.10.0; un año, £1.9.0.

kroner to 33,800,000. But new profit, following higher figures for depreciation, was reported unchanged at 2,480,000 kroner (171,000 lbs. sterling or \$480,000).

**AMERICAN BUYERS OF PULP ON TOUR**—In one of the rare trips of its kind, a party comprised mainly of principal owners or officers of 28 paper or paperboard companies in Eastern United States was journeying to the Pacific Coast of the U.S.A. and Canada in August to tour the big logging operations and the huge sulfite and kraft pulp mills which furnish them with their raw material.

The trip was organized by Reed R. Porter, executive secretary of the Association of Pulp Consumers Inc. The group was traveling close to 7,000 miles before getting back home. A special train took most of the party west from Chicago.

They were to make two yacht trips, one in Puget Sound, the other in Canada's Georgian Straits, and visit St. Regis, Weyerhaeuser, Puget Pulp, Powell River and MacMillan & Bloedel pulp mills and their forests. On the return trip through Canada, they were to spend a weekend at Jasper National Park in the Canadian Rockies. Many new multi-million dollar mills, and new plants just under construction, were to be seen.

Nearly all executives brought their wives for the spectacular trip. A few of the 28 paper and board companies were represented by more than one executive. Receptions, dinners and luncheons in Pacific Northwest cities also highlighted the trip.

**BROWN COMPANY**, worldwide exporter of woodpulp, is expanding Western European sales and service for all the pulp, paper and chemical forest products it makes at Berlin, N.H., U. S. A. (This New England pulp-paper town, unlike the German capital, accents its first syllable).

**FRENCH PRODUCTION MAY SET RECORD**—It appears now that the French pulp and paper industry is headed for new production records in 1955. If its recent rate of production is maintained it should produce a little more than 2,000,000 short tons of paper and paperboard. That is more than twice what it produced in 1914—before two world wars slowed down industry growth. It is four times French production in 1900.

Last year France produced 1,792,000 short tons, an all time record and its best mark since 1951. First quarter production this year was 501,600 short tons, compared with 457,600 for the comparable 1954 quarter.

**GERMAN FIRM PICKS U.S.A. REPRESENTATIVE**—Jagenberg of Dusseldorf, Germany, has designated the Pearce Development Co., Cleveland, Ohio, U.S.A., to sell its slitters and sheeters in America. Jagenberg has made this equipment for 77 years.

**MEXICO PLANS NEWSPRINT**—President Adolfo Ruiz Cortines, in a formal visit to the San Cristobal Sugar Mill, expressed strong interest in plans to produce newsprint from sugar cane waste to assure steady supplies for Mexico's papers. Pure chemical pulp also would be used in the furnish.

Dande and Enrico Cusi explained the process for treating bagasse and said that plans for the fabrication of bagasse newsprint are going forward very well.

The bagasse newsprint plant will use machinery and procedures primarily Mexican, with aid of Italian technicians. It was revealed that test runs have produced a yield of 700 kilos of paper (1,400 lb. approximately) per ton of bagasse. Plant will also produce a blue wrapping paper of good quality.

**VIAJE DE COMPRADORES**—Un grupo de gerentes o dueños de 28 de las principales fábricas de pulpa y papel de la región oriental de los EU están en viaje a las regiones occidentales y al Canadá para inspeccionar los trabajos de maderería y las grandes fábricas de pulpa que los proveen de materias primas.

El empresario del viaje es el Sr. Reed R. Porter, gerente de la Association of Pulp Consumers Inc. La gira será de 7,000 millas, y se hará por tren especial desde Chicago. Se viajará por yate dos veces, en Puget Sound y en el Georgian Straits, Canadá, para visitar las plantas St. Regis, Weyerhaeuser, Puget Pulp, Powell River, MacMillan y Bloedel con sus bosques. Se verán muchas fábricas, establecidas ya y en construcción, y se pasarán días de recreo en el bello Jasper National Park. Casi todos los señores viajeros gozan de la compañía de sus esposas, y algunas de las 28 empresas enviaron más de un funcionario. Se les ofrecieron varias cenas, recepciones, almuerzos y festejos.

**N. C. NELSON**, Manager of Brown's Foreign Sales Division, who went to Europe to expand foreign operations.

**N. C. NELSON**, gerente de ventas al extranjero de la Brown Company, que hizo viaje a Europa para iniciar el aumento de servicios.



**LA COMPANIA BROWN**, exportadores de pulpa a todas partes del mundo, aumentará todos sus servicios, abarcando todos los productos forestales, de papel y químicos que se producen en la fábrica matriz en Berlin, New Hampshire, E.U.A.

**RECORD EN FRANCIA?** Parece que se establecerá nueva norma de producción en Francia. Manteniendo la producción notada ultimamente, se producirán más de 2,000,000 toneladas de papel y cartón en el año 1955, o sea doble la producción del año 1914 antes de que las dos guerras retardaron el progreso de la industria. Las 2,000,000 toneladas son más de cuatro veces más que la producción del año 1900.

En 1954 se produjeron en Francia 1,792,000 toneladas, record hasta entonces. Durante los primeros tres meses de 1955 la cifra fue 501,000 toneladas, mientras que en los correspondientes meses de 1954 fue 457,600 toneladas.

**REPRESENTANTE EN EU**—La empresa Jagenberg de Dusseldorf, Alemania, ha nombrado a la Pearce Development Company de Cleveland, Ohio, agentes de ventas para los EU.

**PAPEL PERIODICO MEXICANO**—Haciendo visita recientemente al ingenio de azúcar de San Cristóbal, el Sr. Presidente de Mexico, don Adolfo Ruiz Cortines, mostró gran interés en los proyectos para fabricar papel para periódicos usando bagazo de caña de azúcar, supliendo así los diarios de la república. Pulpa química pura también se usará en el proceso.

Sres. Dande y Enrico Cusi explicaron al presidente el tratamiento del bagazo y declararon que el proyecto se adelanta a buen paso.

En la fábrica de papel se usarán máquinas en mayor parte mexicanas, con la ayuda de personal técnico italiano. Se dijo que en pruebas de producción han resultado 700 kilos de papel por cada tonelada de bagazo. Se producirá también papel para envolver, azul, de buena calidad.



## What C-Z Gains in Gaylord

Crown Zellerbach's deal with Gaylord Container Co. will probably be completed before the end of the year, PULP & PAPER learns from J. D. Zellerbach, president of C.Z. Agreement has been reached in principal on an arrangement to exchange two shares of Crown for each three of Gaylord.

Gaylord will add about \$75,000,000 to Crown's present assets of some \$325,000,000.

Asked whether inflation had been influencing pulp and paper securities recently, Mr. Zellerbach admitted that it had been a factor, but not so important as the growing strength of the industry and the public confidence it had generated.

### WHAT CROWN ACQUIRED—

Crown Z. acquires, in Gaylord, the big Bogalusa, La., pulp-paper mill, two smaller paper mills in Ohio, 16 converting plants and 62 sales offices.

Originally the Bogalusa Paper Co., a wholly owned subsidiary of Great Southern Lumber Co., this company produced its first sheet of board on Jan. 4, 1918. It was merged with Robert Gaylord, Inc., on June 16, 1937, to form Gaylord Container Corp. Bogalusa derived its name from Bogue Lusa, a creek adjoining the old sawmill site. A Choctaw Indian name, it meant "dark water."

Gaylord forest lands held in 1937 amounted to 260,000 acres. This acreage rose to 344,000 in 1949, 425,000 in 1951, 470,000 in 1953, and is currently estimated at over the half-million acre mark. In 1951 it was estimated that by 1960 the forest inventory would be adequate to sustain cutting that would supply 70% of mill needs.

In Louisiana, company holdings were distributed among five parishes (counties) as follows: Livingston, 124,275 acres; St. Helena, 25,457 acres; St. Tammany, 43,136 acres; Tangipohoa, 11,715 acres; Washington (mill seat), 126,675 acres; total, 331,258. Company lands lie in four well blocked out areas, three in Louisiana and one east from Bogalusa, across the Pearl River in Mississippi.

**GAYLORD PERSONNEL**—Direction of the Bogalusa properties was in the hands of Vertrees Young, executive vice president and resident general manager, from 1937 to recently. He now spends much of his time in St. Louis and at two company mills in Ohio.

Alfred Suter, formerly general superintendent, became resident manager; W. F. Gillespie was advanced

from technical director to assistant manager; A. D. Levert, from assistant to general superintendent; N. H. Seirsdale, works manager; J. J. Goss, technical director from assistant.

Paul M. Garrison is general manager, woodlands dept.; A. G. Curtis, superintendent of pulpwood procurement; Frank Heyward, Jr., public relations director.

Pulp production amounts to 1,040 tons per day of sulfate and 135 tons daily of semi-chemical pulp. The mill has three cylinder machines and four Fourdriniers. It has some bleach capacity; operates its own tall oil and turpentine by-products plant.

### Michigan Carton Keeps Present Management

Michigan Carton Co., Battle Creek, Mich., will continue as a subsidiary of Marathon Corp. under its present management. The merged Michigan company owns and operates two paperboard mills totaling 450 tons daily capacity and a carton printing and converting plant integrated with one of these mills. Michigan Carton manufactures a general line of folding boxes with emphasis on cartons for packaging so-called "dry foods," such as cereals, complementing Marathon's paraffined carton "wet food" line.

## What President Did On Brown Co. Visit

President Eisenhower enjoyed a respite from his recent 5-day tour of New England when he was guest of Brown Co., Berlin, N.H., for two days at its Parmachenee Club. While getting in some fishing, he also took a look at Brown pulpwood operations. And Berlin pulp and papermakers got an intimate glimpse of him.

Berlin, N.H., home of Brown, was a festive sight as the presidential party drove into town. A tree-felling contest by Brown woodsmen evoked interest, with the President asking many questions. He was presented with a Homelite power saw to use at his Gettysburg farm.

At Brown Farm, the President went into the Brown Co. phone exchange to chat with Joseph Mooney, blind switchboard operator, who controls 200 miles of company lines.

Chief host was Brown chairman, Laurence F. Whittemore, who had many an informal chat with the President. Vice President C. S. (Pat) Herr was also with the party. He was complimented by secret service men for his knowledge of the woodlands. Aiding Mr. Herr in arrangements was "Bill" Johnson, chief scaler for Brown. H. P. (Link) Burbank, manager of personnel and public relations, supervised press arrangements.

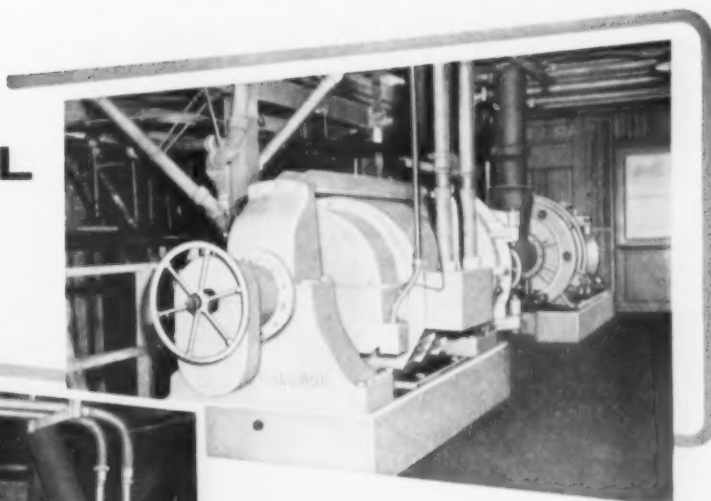
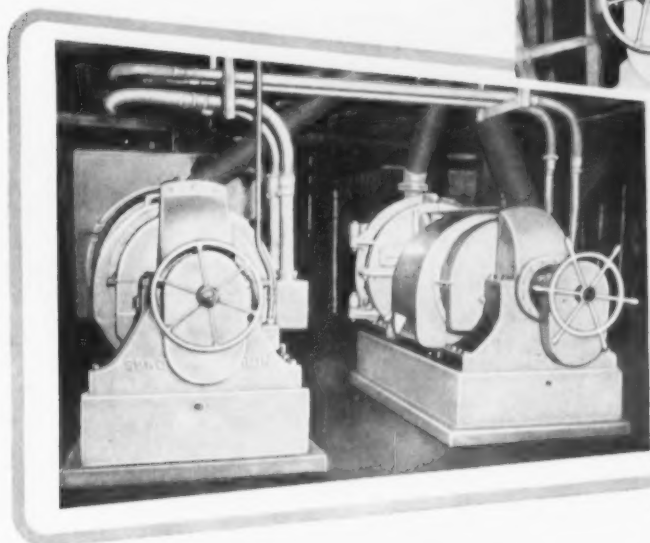


### Mechanization Comes To Eisenhower Farm

PRESIDENT DWIGHT D. EISENHOWER is shown here receiving a new Homelite Model 17 power saw which he intends to use on his Gettysburg, Pa., farm. Presentation was made at Brown Co. timber-cutting exhibition at Berlin, N. H., GALE LEMOINE, second from right (in business suit), is Boston District Mgr. for Homelite Corp. Others in picture are Brown Co. lumberjacks. Photo by United Press, courtesy of Homelite's "Sawdust."



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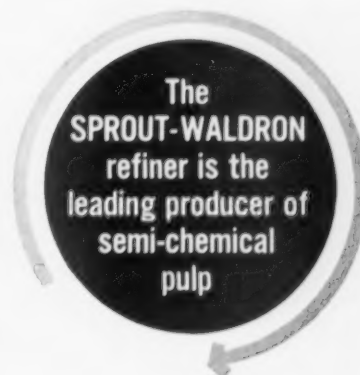


*Sonoco Products Company*  
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**Refiners**

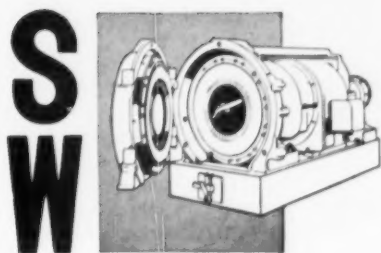
Four of the seven Sprout-Waldron Refiners installed at Sonoco Products Co., Hartsville, S. C., pulping chips for 9-point corrugating board. Two Sprout-Waldron 36-1 Refiners installed in 1939 refine waste corrugated board stock. Five Sprout-Waldron 36-2 Refiners pulp hardwood neutral sulphite semi-chemical chips in a 2-stage refining system. The five 36-2 Refiners were ordered over a nine-year period. Repeat orders are the best evidence of customer satisfaction.

**Single rotating disc design with peripheral control ring plus rugged construction for...**

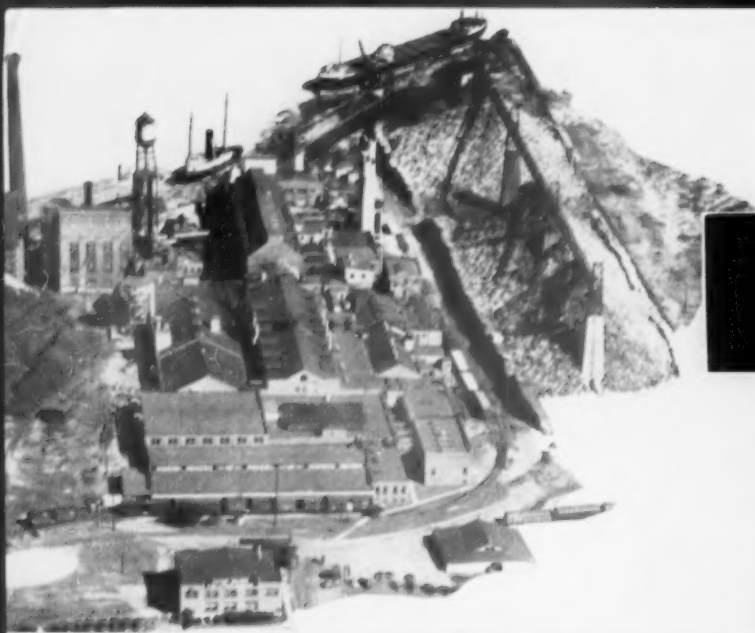
- High Pulp Quality
- Flexibility of Operation
- High Capacity
- Low Maintenance



*For more information on semi-chemical pulping, or any other pulping application, send for our file of technical and practical data. Write to Sprout, Waldron & Co., Inc., 32 Logan St., Muncy, Pa.*



*for your pulping problem—*  
**SPROUT-WALDRON**  
**PULP REFINERS**



## detroit division



### Big City Boasts Big Pulp-Paper Mill

Within city limits of Detroit, Mich., is Scott Paper Co.'s sulfite pulp and paper mill. Air view (above) of Scott's Detroit Division is latest available, taken before new buildings for machine and finishing, etc., were "shoe-horned" into this establishment on the Rouge River. Just a few miles down Detroit River (as seen in air view at right) is the mill, as strange in a big city like Detroit (population, 1,850,000) as a navy in Switzerland!

## Scott "Big City" Mill to Double Size

No. 11 Machine at Detroit Division to make 50 tons a day; new automatic finishing department completed

● Just a year ago this month (Sept. 2, 1954), Scott Paper Co. acquired the 70-year-old Detroit Sulphite Pulp & Paper Co. in exchange for Scott stock. The changes that have been wrought at this "big city" pulp and paper mill in just that short time have altered its appearance greatly.

A big new paper machine building, additions for finishing Scott trademark products, storage, laboratory, etc.—these new structures have greatly enhanced the properties of what is now the Detroit Division, Scott Paper Co.

A unique sulfite pulp and paper operation, with a towering sulfur pile and 100-ft. high quarter-mile long "mountain range" of wood, Detroit Division all lies inside the central city limits of the 5th largest city in America: population, 1,849,568 in 1950. The Detroit metropolitan area holds over 3,000,000 people.

To a visitor, the sight of this mill just off busy West Jefferson Avenue, where the River Rouge flows into the Detroit River, is just about as strange as it would be to find a navy in Switzerland.

Before the 5-year expansion pro-

gram is over, Scott Paper Co. probably will have spent some \$20,000,000 to make Detroit Division twice as big as it is now—increasing sulfite pulp production and doubling the present 150 tons daily paper production to about 300 tons. It is anticipated that employment will also be doubled, from 500 to close to 1,000.

**SCOTT PRESIDENT T. B. McCABE** — "At Detroit, Scott has gained important strength . . . firm with well-established reputation . . . considerable potential production."



**SEVENTH MACHINE IN OPERATION GOES ON LINE**—Climaxing the first stage of expansion, the start-up of the Beloit Iron Works-built 142-in. high-speed Yankee Fourdrinier will take place about mid-October. This will be the 7th machine in operation at Detroit, and its third new machine in just 5 years.

Judging from the record made by Scott in starting up other tissue machines—the latest being the late June startup of No. 4 at Everett, Wash.—"putting paper over" at Detroit should come off with the greatest precision and exact timing, and probably in a very few hours it will be making a commercial product. At Everett, two machines were started up this year, in February and June, the two others in Dec. 1953 and July 1954—all of them 206 in. (195 in. trim) Belois and all very smoothly and "per schedule." Scott also is adding a machine at H & W division, Winslow, Me.

Scott is spending about \$70,000,000 in two years—1954-55—on current expansion of both its newly acquired and older mill properties.

**WHAT'S NEW AT DETROIT**—The new Yankee-Fourdrinier at Detroit will make toilet tissue at the rate of 50 tons a day. It will produce a variety of roll tissue products, either of the dry crepe or wet crepe type. It will supplement production on 6 other machines currently in operation. Two of these machines have been rebuilt—

machines Nos. 7 and 10—and converted to Scott products. There has been an entirely new Scott finishing department built and equipped.

Chief interest centers in the new paper machine, of course, which has a high-speed General Electric drive with G.E. panels, with instrumentation by Mason-Neilan Regulator Co. E. D. Jones Liebeck stock pulpers and Shartle Selectifiers and Jordan provide for stock preparation.

**BRIGHT NEW POWER PLANT**—A timely modernization carried out under direction of Pres. George N. Carleton before Scott purchased the company in Sept. 1954 was the construction of a shining new power plant. It set the stage for much of the expansion that has been carried out since Detroit became one of Scott's 14 pulp and paper mills. Mr. Carleton, meanwhile, became a director and a vice president of Scott.

A new 5,000 kw General Electric turbine and a new Combustion Engineering 600 lbs. pressure power boiler are the major units in the modern power plant. Motors and pumps are principally Allis-Chalmers and Ingersoll Rand, and the power plant is an attractive "showplace" of this mill.

**"THE HUMAN ELEMENT"**—Incidentally one of the immeasurable, but major assets which Scott acquired in taking Detroit into its "family" was a personal one. Comprising a valued addition for Scott are the people who make up the experienced, alert, and intelligent staff for which Detroit Sulphite has long been known in this industry. This not only refers to its veteran staff of supervisors led by Mr. Carleton, but also its large proportion of well-trained employees with many years of service. Because the Scott organization itself places such great emphasis on the human element—its own expertly trained and "specialist" staff—this figured importantly in the deal a year ago.

**WORK DONE ON OTHER MACHINES**—The Detroit Division formerly made about 200 different grades of lightweight sulfite specialties, none sold under its own brand name, but bearing many well-known names of consumer products. But much of its production for years was to supply Scott with base stock for their brand of wax paper, Cut-Rite. Since acquisition of the business by Scott, more production facilities have been added to make Scott brand products.

Rebuilding of No. 10 base stock machine was carried out so that this



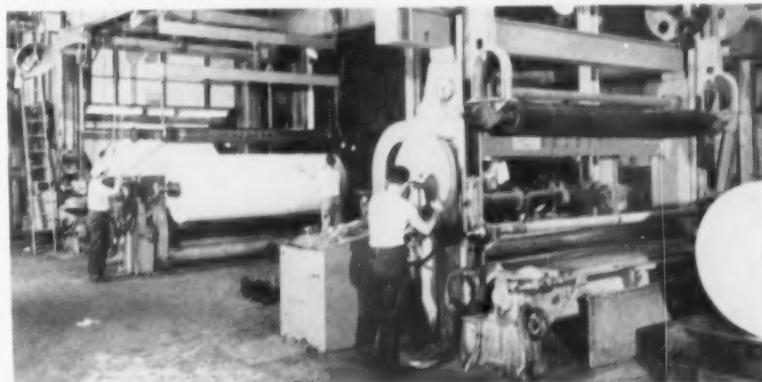
**On Day Detroit, Scott Signed Final Papers**

This rare photograph shows a hand-shaking scene in which three Vice Presidents and Directors of Scott take part (left to right): HARRISON F. DUNNING, J. LARCOM OBER and GEORGE N. CARLETON, who heads Detroit operations and was latest to become a Scott officer.



**A "First Picture" of Detroit's No. 10 Machine**

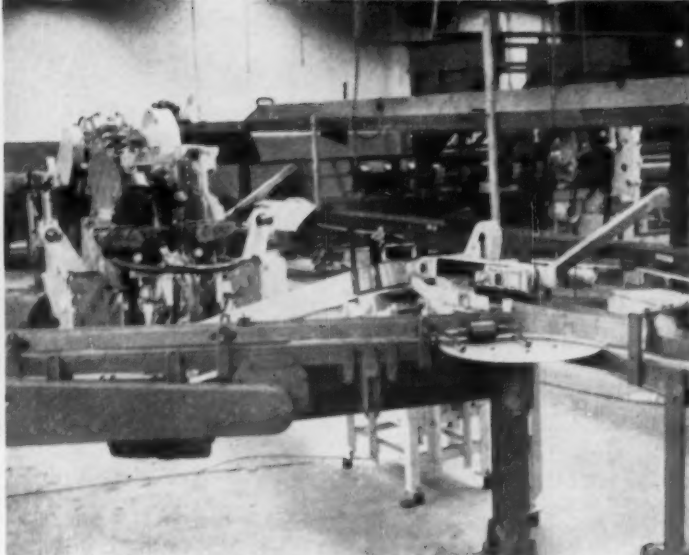
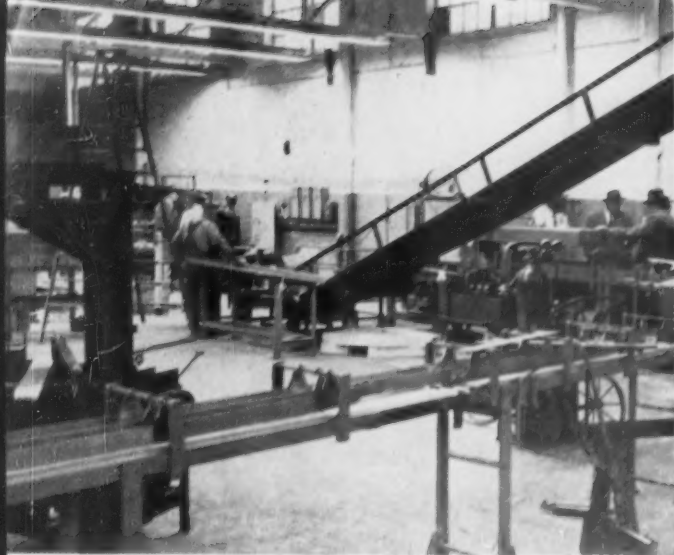
Here's the famed No. 10 Yankee Fourdrinier, the first picture of this comparatively new machine to be published outside of a company publication. Was on base stock for Scott—now it makes Scott trade-mark tissue products. This was built by Beloit, started up in late 1952. It is 136 in. wide, has speed range up to 1,800 fpm, with J. O. Ross Engineering hood and air system over pre-dryers and big 12-ft. Yankee. A 5-roll open side calender stack with oscillating doctors and Beloit transfer reel are at right. At dry end is Mason-Neilan instrumentation, Midwest Fulton (Ross) condensate removal and Thermo compressors balance 28 lb. and 150 lb. steam demand.



**One of Three New Machines in 5 Years**

This is No. 9 Beloit-built 136-in. Yankee Fourdrinier, which started up in Feb. 1951. Beyond the reel can be seen Ross hood on big 12 ft. Yankee dryer. In foreground at right is high speed Beloit 2-drum winder, motor-operated roll ejector, motor-driven rider roll with air-loading hydraulic roll lowering table and shear-cut slitters. Reliance Electric & Engineering Co. provided motor drive for winder. Left to right: EARL DIGMA, HOWARD POTTER and ART HALL.





### Glimpses into New Scott Finishing Dept.

Here are two general views of new completely automatic and continuous Scott Finishing Dept. added at Detroit mill, which started up this year. Seybold Trimmer is in far background of

picture at left. Rotary cutter, rewinder and core stock cutter for Soft-Weve converting are among varied automatic finishing installations here.

equipment would be producing tissue products bearing the Scott name.

Described in an exclusive feature article covering the entire Detroit mill, in the Dec. 1952 issue of PULP & PAPER, were what were named No. 9 and No. 10 machines (actually 5th and 6th in operation). No. 9 started up in Feb. 1951 and No. 10 at the end of 1952. Both were new Beloit Fourdrinier machines, 136 in. wide, rated at 1,800 fpm, with 12 ft. Beloit Yankee dryers, and pre-dryers, Ross Engineering hoods and air systems, Midwest Fulton drainage, Mason-Neilan instrumentation, Reliance Electric & Engineering generators and motor drives for main line shafts, winders and helper drives. Beloit enclosed hypoid gear units were belt-powered from main line shafts.

So when Scott acquired Detroit Division, it had three Yankees, two Combination Yankees and one Combination Yankee-Fourdrinier. Even the oldest and smallest machine, 84 in. trim No. 3, had a new 10 ft. Yankee dryer and Reliance single motor drive, added in 1949.

One of these six machines, Detroit's No. 7, was rebuilt and is now producing Soft-Weve tissue. This production was shipped to Chester for finishing but this year a new finishing department was put into production in Detroit to handle the final operations.

### OLDER THAN MOTOR INDUSTRY

—Although on the best of terms with its business neighbors who turn out sleek automobiles, Detroit Division has every right to regard them with a slightly superior air as comparative newcomers to the industrial scene. Last year, when Scott issued 125,092 common shares in exchange for the assets and assumed the liabilities of Detroit Sulphite Pulp, that company was celebrating its 70th anniversary.

Long before the first Ford rolled along Detroit streets, or even before any automobile factory set up its

primitive assembly lines, the Detroit Division was well established in doing just what it is doing today—turning out quality paper products. Founded in 1884, as the Detroit Sulphite Fibre Co., it was one of the first sulfite pulp mills in the world. The original Mitscherlich slow-cook sulfite process is still used in the 8 horizontal digesters. Manufacture of paper was begun at this mill in 1892.

### SCOTT GOT VAST TIMBER RESERVES

—Actually, when the Detroit Division began operations, the city had a population of only 100,000 and plentiful supplies of pulpwood were close at hand. As forests gave way to farm land and city, many other pulp and paper mills have found it necessary to change their bases of operation. Not so the Detroit Division. Instead, it was discovered that by using the Great Lakes for transportation, logs could be brought economically from more distant forest areas.



### Executive Group Discusses Plans

Left to right, at Detroit Mill: MARTIN F. SCHNAUFER, Plant Engineer; ROY L. DAVIS, Plant Manager; GEORGE N. CARLETON, Vice Pres., Scott Paper Co., and principal operating executive for the Detroit Division; K. G. SELL, new Scott Industrial Territorial Manager for product marketing; EDGAR L. GIFFEN, Plant Personnel Mgr.

In acquiring this company, an important asset that Scott received was ownership of more than 1,000,000 cords of virgin spruce in Ontario as well as a pulpwood operating company in Ontario. In the merger with Soundview Pulp in the Far West, it is recalled, Scott acquired even more vast timber holdings.

Conscious of the fact that without an adequate supply of quality pulpwood, the company would be unable to maintain control of its operations and processes from the forest to the finished product, Scott is happy to receive a large supply of its Detroit raw material from the wholly owned Canadian subsidiary, Driftwood Lands & Timber, Ltd., with timberlands in excess of 65,000 acres in Ontario.

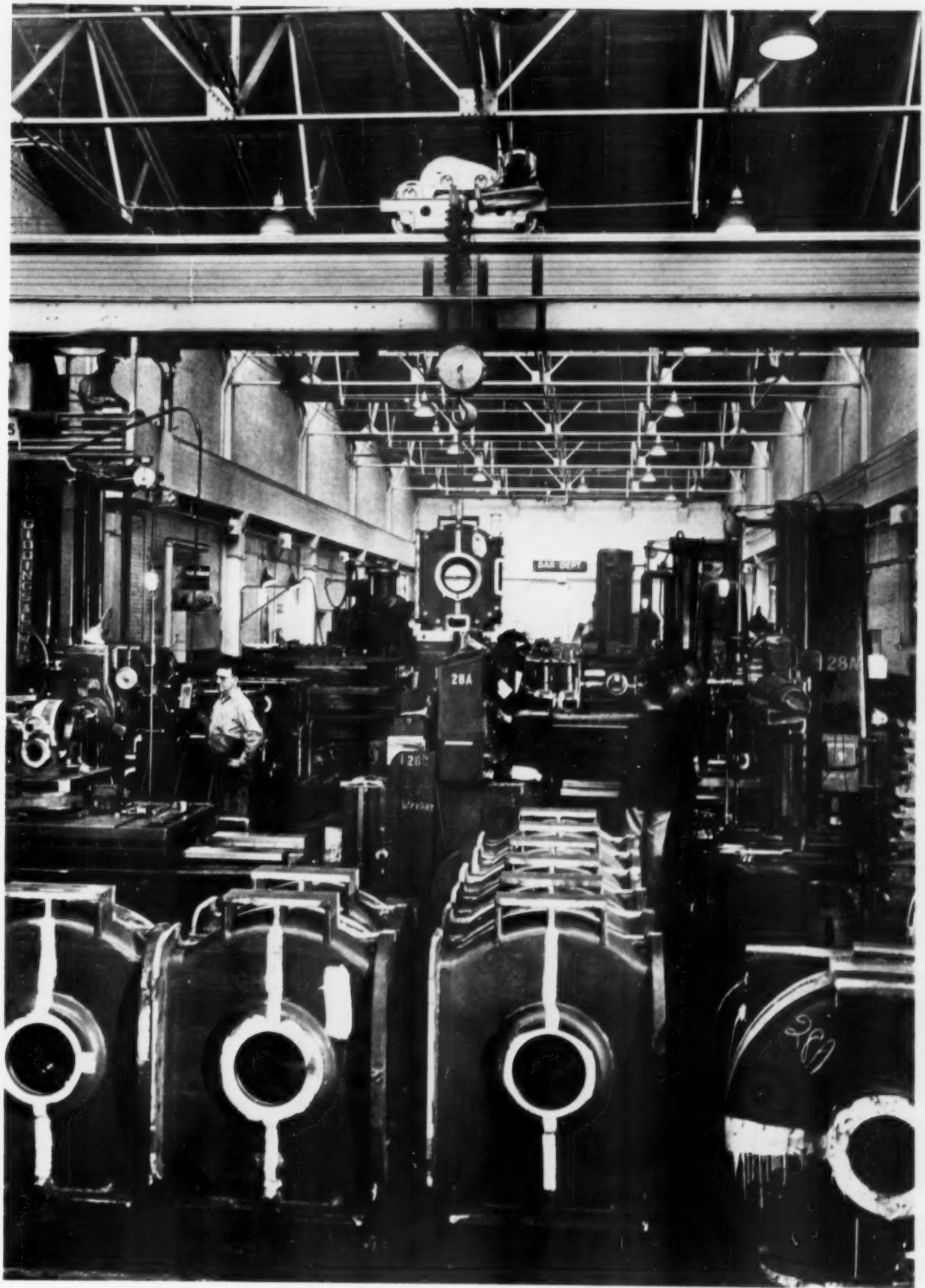
In addition, barges haul pulpwood from as far as Prince Edward Island on the Atlantic coast—a 1600-mile trip right up to the mill door. Thus, from its own ownership in excess of 1,000,000 cords of virgin spruce, in



### Setting Switches for Turbine

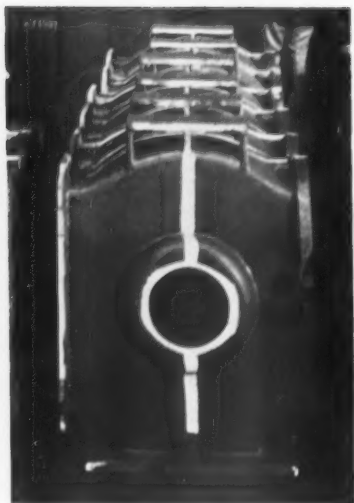
This is General Electric switch board for new G. E. turbine which develops 5,000 kil/hr. ANDY UHRING (left) and TOM WOODWARD, Power Supt. at Detroit, are adjusting switches. It was fortunate for Scott that this new power plant was part of properties it acquired, paving way for papermaking expansion.





FORBES ROLLING

**MADE IN BELOIT** ...Dryer gear cases at Beloit Iron Works. / For further details, please turn the page.



## MADE IN BELOIT

The rugged, heavy-duty dryer gear cases in the photograph on the preceding page are shown in process in the Boring Bar Department at Beloit Iron Works, Beloit, Wisconsin. Before reaching the machine shop, each casting is carefully inspected and layout lines are drawn to guide the machining operation. The 10-ton bridge crane quickly positions the heaviest casting for machining setup. Skilled machinists, in an up-to-the-minute plant employing the most modern machine tools, produce a finished product of highest standards.

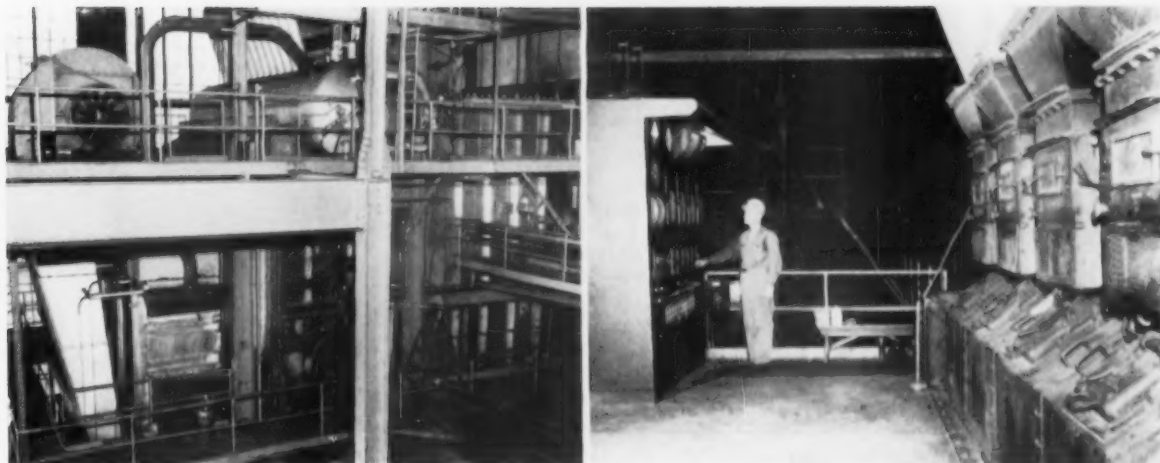
*your partner in papermaking*

# BELOIT

PAPER MACHINERY



WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE!



**View of Detroit's New Boiler**

This shows upper two-thirds of Combustion Engineering boiler of 120,000 lbs. per hour capacity. It burns bark and coal.

**And Its Operating Controls**

Barley Meter controls for new Combustion Engineering boiler are at left, and are being operated by ELMER PHILLIPS.

addition to the cutting rights of considerable extent which it holds in other areas, the Detroit mill is assured of a long-range supply of wood.

With the coming of the Spring thaw, logs float to several Lake Superior ports where they are loaded on barges and hauled to Detroit. Tows are up to 700 miles from Port Arthur in Lake Superior, about 600 miles to Michipicoten Harbor, and somewhat less to Manitoulin Island in Lake Huron.

Besides this, much timber comes from Michigan. This state is now a great producer of hardwoods for pulp, and they have fine qualities for tissue.

Upon arrival in Detroit, logs are added to the wood pile in the company yards for seasoning. About 100,000 cords of pulpwood are used each year.

**MAKING PULP**—The clean logs from D. J. Murray and Fibre-Making Processes drum barkers or Allis-Chalmers Streambarker go to a 10-knife Carthage chipper, after which the resulting chips are screened to uniform size and stored in huge hoppers above the digesters. In the pulp mill, in eight horizontal Mitscherlich digesters, 12x45 ft., of 12-ton capacity each, the chips are cooked in the acid liquor under strict schedules of temperature and pressure. Pulp production just about equals paper production.

Bauer disc refining for pre-bleach sulfite and screenings, a Bellmer hypochlorite bleach, E. D. Jones and Horne beaters, are major process steps ahead of the paper machines.

Following the relatively new Nos. 9 and 10 machines are high-speed Beloit two-drum winders, motor-operated

roll ejector, motor-driven rider roll with air-loading, hydraulic roll lowering table and shear-cut slitters. The modern design of these machines keeps the element of human error at a minimum and uninterrupted high quality production is the result.

The Detroit Division has installed its own filtering system to take water directly from the Rouge River. The mill's daily consumption of 30,000,000 gals. equals that of the entire nearby city of Wyandotte.



**JAMES BROWN**, from Scott organization, who fits into Detroit's veteran staff as new Production Mgr.



**Looking at New No. 11 Drawings**

MARTIN SCHNAUFER (left), Plant Engineer, with Detroit mill for 15 years, and DR. ROY DAVIS (right), Plant Manager, check over drawing of new No. 11 Beloit-built Yankee Fourdrinier which will start up by mid-October, adding 50 tons daily of Scott tissue products.

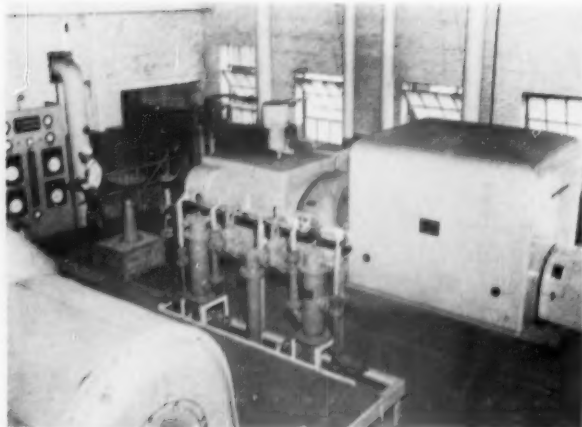


**Checking New Addition**

BERNARD JOHNSON, Pulp Mill and Woodyard Supt., is pointing to gauge on a new sulfur spray burner in Detroit Division's pulp mill, discussing operation with JOHN SZUCH, in back, who is Acid Maker. Mr. Johnson is a graduate of Michigan State College.

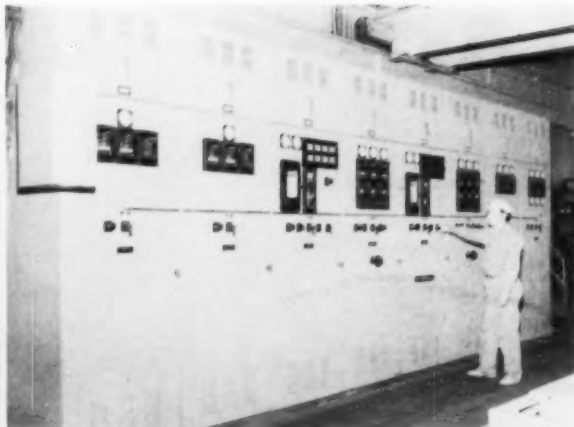
As in other Scott mills around the circuit, a constant temperature, constant humidity testing station rigidly examines every reel of paper for weight, density, strength, cleanliness, moisture, and other important properties. The data, recorded and preserved, aid in maintaining high standards of quality and uniformity. Fred D. Titterton, as chief consumers' representative, is in charge of this quality control section.

**WHAT McCABE SAID ABOUT DETROIT**—Last Sept. 1954, Scott President Thomas B. McCabe said of the acquisition that "Scott has added important strength and earnings by acquiring a firm which has a well es-



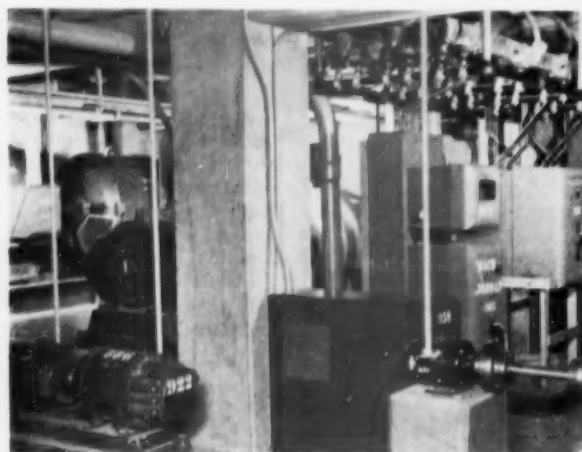
#### New Turbine Was Timely Addition

This is 5,000 kw General Electric double extracting, condensing, mixed flow turbine, a recent addition at Detroit. MATT KIMLER, Turbine Operator, taking readings on panel at left.



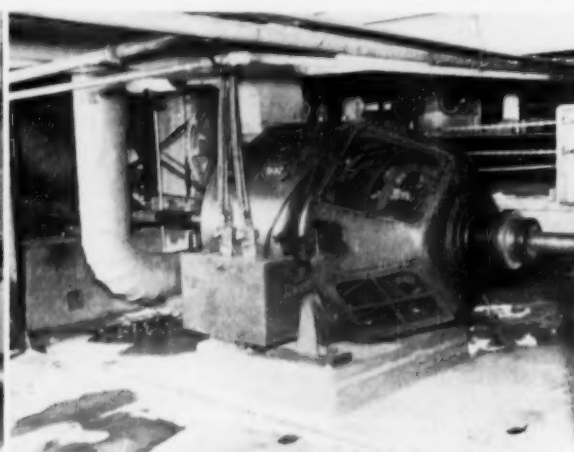
#### Where Turbine Operation is Controlled

This is General Electric power control panel for Detroit's new turbine. ROBERT LAKE, Shift Engineer, is adjusting a control. Panalarm units, to warn of any disruption, are also on the panel.



#### Drives for Paper Machines

Special custom-built Reliance Electric & Manufacturing Co. generators and drive are used on No. 9 and No. 10 machines at Detroit Division of Scott Paper Co. One of these pictures



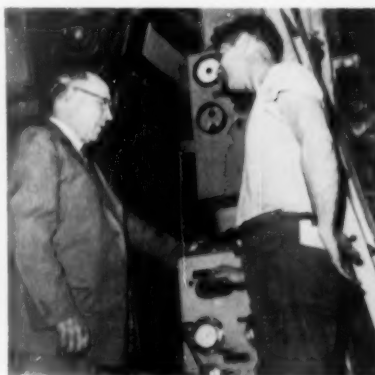
shows Reliance "Electric Room" in basement under No. 9 machine, with motor generator sets. The other picture shows a Reliance direct drive on machine shaft.

established reputation and excellent production facilities, some of which are appropriate for the manufacture of Scott brands."

He pointed out that "Scott will gain greater economies in distribution, particularly in the Midwest, and considerable potential production to support the Company's continuing sale growth."

**CARLETON AT DETROIT 25 YEARS**—One of the men who had a large influence on the growth and leadership of the Detroit Division has been George N. Carleton, the principal operating executive for the Detroit operation.

Mr. Carleton, who served as president of Detroit Sulphite since Jan. 1944, was born in East Tawas, Mich., and went to the University of Michigan. He was first employed by the



#### Modern Machine Operation

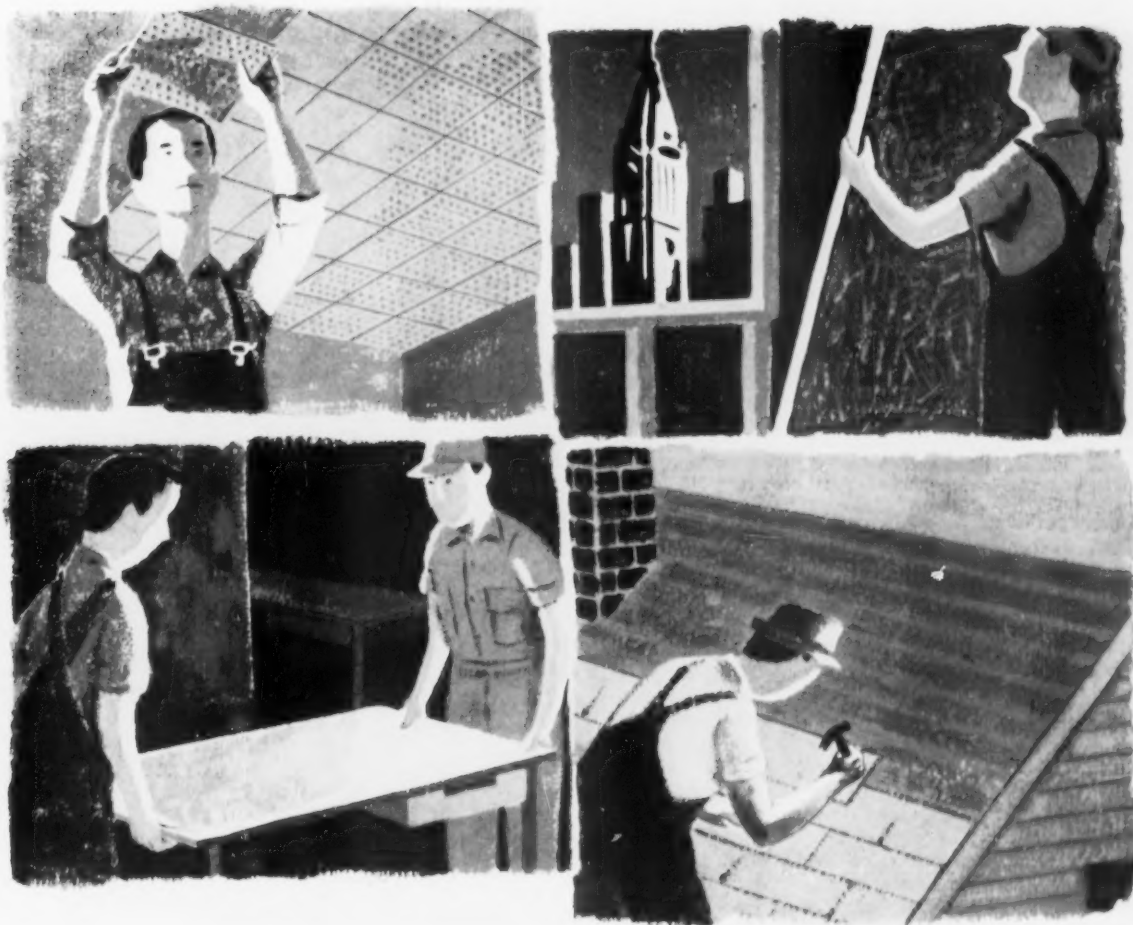
LOUIS TWEET (left), Paper Mill Supt. and veteran of 12 years at Detroit, talks over operation of 4-year old No. 9 Fourdrinier Yankee machine with CARL PHILIP (right) Machinetender. Mason-Neilan Regulator Co. provided temperature and pressure recorders and gauges.



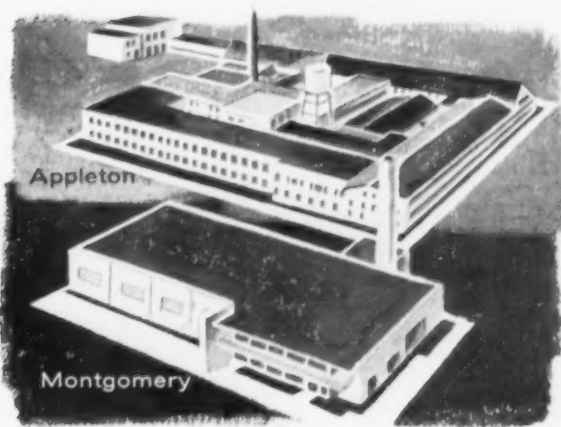
#### They Talk Over Purchasing

HAROLD RANDOLPH (seated), Plant Purchasing Agent for Scott's Detroit Division, discusses purchasing policies with CHARLES G. ALLEN, Woods Dept. Mgr., a graduate forester with master's degree from University of Michigan forestry school.





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Plants at Appleton, and Montgomery, Alabama.

From Main Street to Forty-Second, wherever house or office starts to climb, paper is on the job from the first whistle. In wallboards and floorboards—insulation, conduits, asphalt shingles... even in composition floorings, desk tops, and furniture when the tenants move in. Paper... essential ingredient of consistently better, more varied, and highly specialized materials—indispensable to modern building everywhere.

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**Appleton Wire Works, Inc.**





### Unloads Canadian Wood

A big Great Lakes wood barge, bringing cargoes 600 to 700 miles from Detroit timberlands in Ontario, is being unloaded. This is Link-Belt crane with Link-Belt grapple. Another crane, in background, is Ohio Locomotive Diesel.

company in the pulpwood department in 1927. Before coming to Detroit in 1930, he supervised various pulpwood operations in Ontario. Prior to becoming president he had been in a supervisory capacity in most of the operating departments, eventually becoming general superintendent and vice president in 1943.

Mr. Carleton is an enthusiastic traveler, and has inspected papermaking operations in many foreign countries. Two years ago, while on a Board of Commerce tour of the Orient, he stopped in Manila to see an old acquaintance. The "acquaintance" was a pulp machine converted to paper manufacturing. It had been one of Detroit Sulphite's original pieces of equipment in 1884. Sold to the Philip-

pine firm a few years ago, it was operating at capacity and giving good service even after all its years in Detroit.

**OTHER KEY EXECUTIVES**—Roy L. Davis, formerly Detroit vice president, is plant manager, and has been with the company since 1935. Born in Maine, he attended Bates College and later the Institute of Paper Chemistry. He and Harold Bialkowsky of Weyerhaeuser constituted the "first graduating class" of the Institute 26 years ago. Dr. Davis was formerly with S. D. Warren and Consolidated Water Power & Paper Co.

Another former vice president of Detroit Sulphite, Kenneth G. Sell, is now Great Lakes industrial sales man-

ager of Scott while continuing to direct the sales activities of Detroit Division. Mr. Sell joined the company in 1930.

Russell A. Mills serves as assistant secretary and has been with the Detroit Division since 1929. He is a native Michigander, as are most of the executive personnel of the company.

Martin F. Schnauffer, a graduate of the Michigan College of Mining and Technology, is plant engineer. He has 15 years service with the organization, and was formerly associated with Fruehauf Trailer Co. and General Motors.

Detroit's production manager, James Brown, formerly production manager at Scott's Marinette plant, has climbed steadily in the Scott organization since his employment in 1933. An engineering graduate of Drexel, he began his career with Scott at Chester and has worked in several of the Scott plants prior to his new appointment.

Superintendent of power, Thomas F. Woodward received his degrees at Ohio State in 1931. He has been with the Detroit operation since 1948 and was formerly with Packard as chief engineer of power and Detroit Edison.

Harold B. Randolph, plant purchasing agent, was employed in 1944. Another Detroit man is Edgar L. Giffen, plant personnel manager, born and raised in the motor city. He has been with the company since 1941. The office manager for the Detroit Division is Walter A. Stark.

The plant traffic manager is John R. Hulbert, who has been with the Detroit organization since 1940. A University of Michigan graduate, he was formerly assistant sales manager.

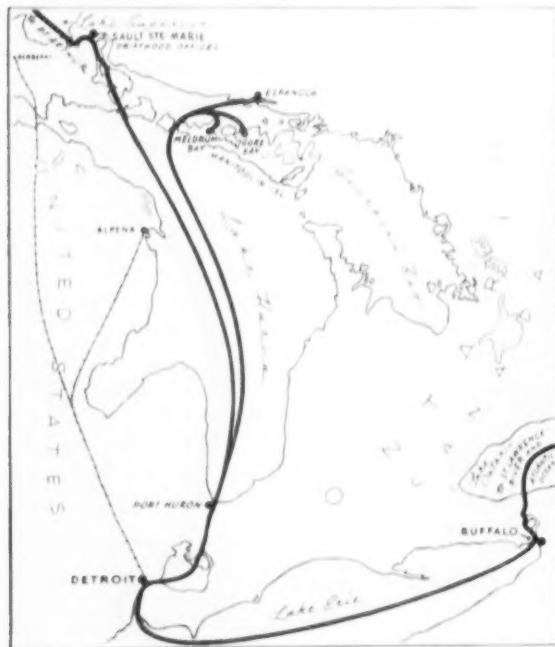
Eugene H. Williams is technical control manager and a graduate of North Carolina State College and the Institute of Paper Chemistry. Prior to joining Detroit in 1952 he worked for Munising and Milprint.

Woods Manager Charles G. Allen is a graduate of the University of Michigan's Forestry School, and has been employed at Detroit 15 years.

Louis A. Tweet is paper mill superintendent. Mr. Tweet, a veteran superintendent, has been at Detroit 12 years and was formerly with other Michigan and Wisconsin mills.

Bernard C. Johnson is pulp mill superintendent. He was born in Detroit and attended Michigan State College. He has been employed since 1946.

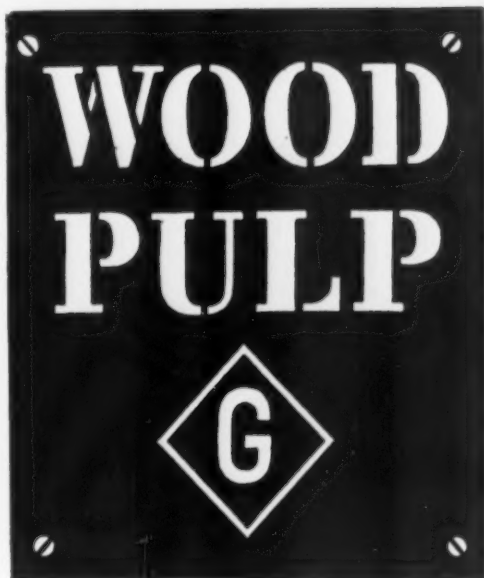
Harry Kentus, formerly finishing superintendent at Fort Edward, has been named superintendent of the newly-constructed finishing department at Detroit. He has been with Scott since 1945, when the Sandusky plant was acquired.



### Show Wood Routes to Detroit

Map shows routes for pulpwood—by water routes and railroad—to Detroit Division of Scott Paper Co. Some comes 1,600 miles from as far as Prince Edward Island in the Atlantic. Port Arthur tows are 700 miles. Those from Meldrum Bay and that area, about 600 miles. Wood is brought by railroad from Newberry, Mich., and Alpena, Mich. Scott now owns over 1,000,000 cords of virgin spruce in Ontario.

*Established 1886*



"The road is always better  
than the inn."

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Newly developed uses of paper . . . newly  
established production records . . . these  
are only points along the road of progress.  
Like the romantic traveller, the Pulp and  
Paper Industry looks to tomorrow's jour-  
ney for fresh adventures and achievements.

★

## **GOTTESMAN & COMPANY**

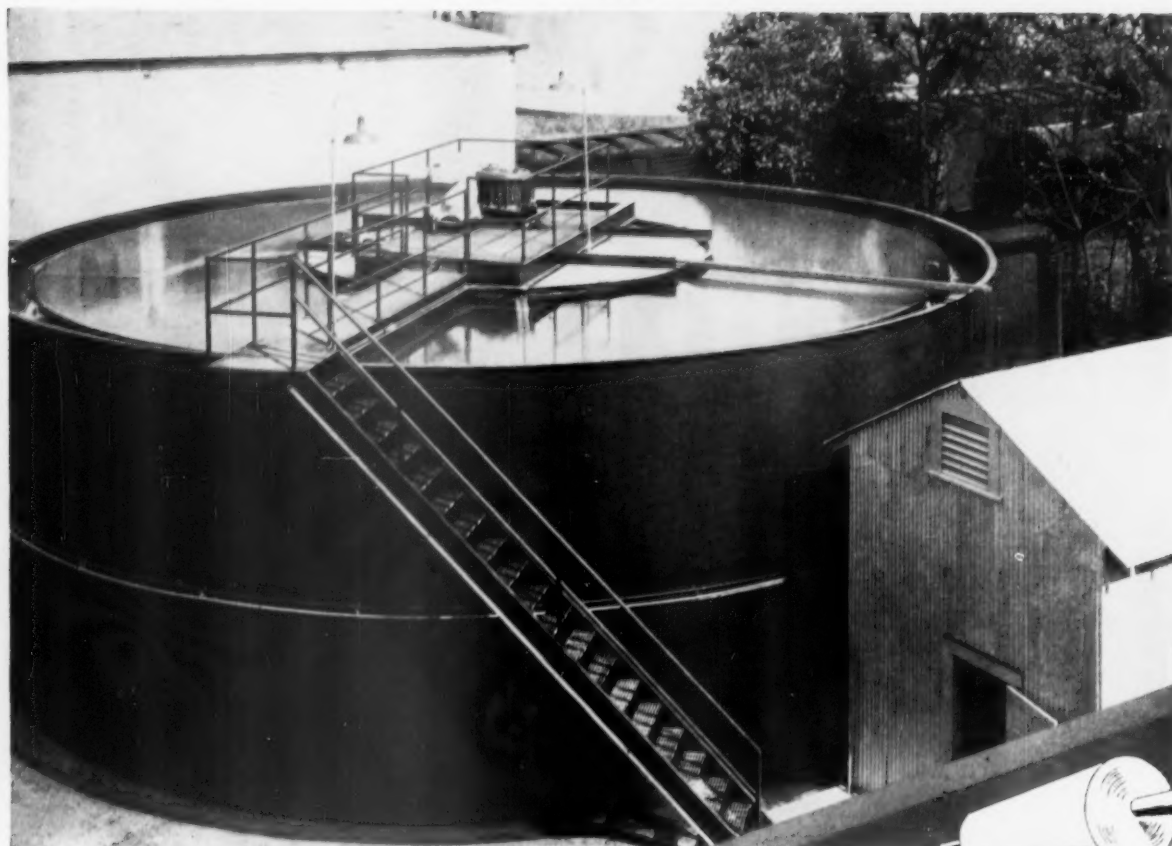
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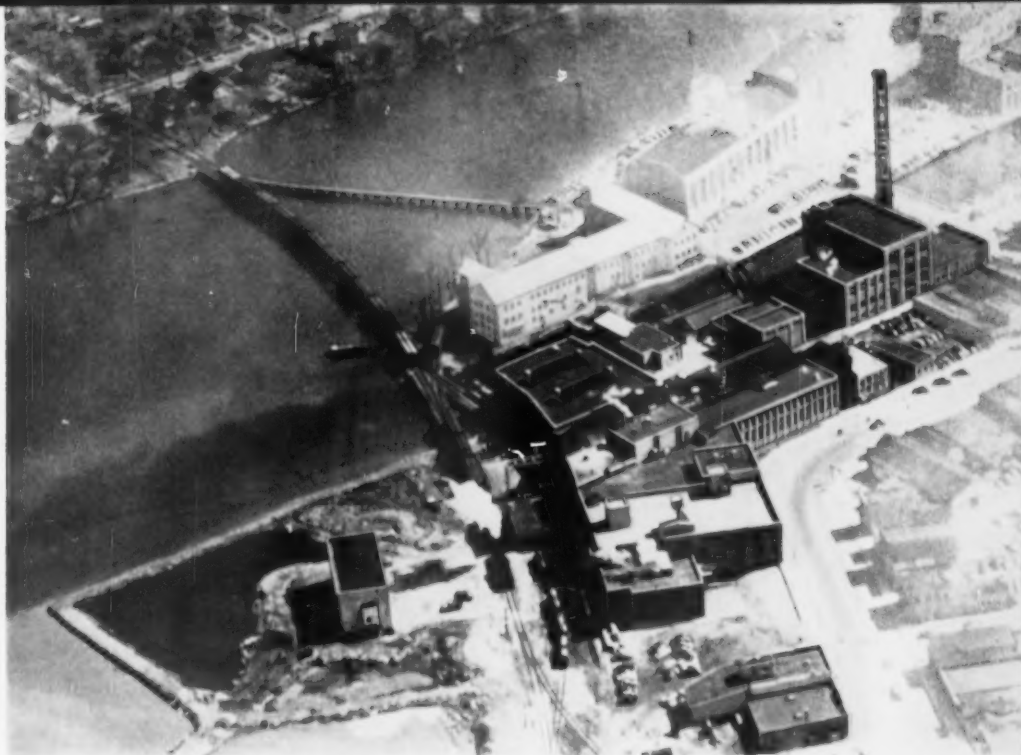
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**A Recent Air View  
of Bergstrom Paper Co.,  
Neenah, Wis.**

(Shaded buildings behind Bergstrom plant are Kimberly-Clark properties at Neenah)



## The Facts About New Coating Process

How does it work? What are its advantages and comparable costs? Electrostatic coating holds much promise

**By NATHAN H. BERGSTROM**  
President and General Manager,  
Bergstrom Paper Company  
(Especially written for Pulp & PAPER)

● The Bergstrom process for coating paper was first announced publicly at the Sixth TAPPI Coating Conference

in Cleveland, O., on May 23. Development of this process resulted from several years of research sponsored by Bergstrom Paper Co., Neenah, Wis., at Battelle Memorial Institute, Columbus, O.

This method is a new, dry method of applying coatings on paper. It

promises relief from some problems of long standing in the paper coating industry and offers a wide variety of coated products.

For years, manufacturers of coated paper have been plagued by problems arising from rewetting webs when applying pigment coating to enhance the surface properties of the paper. Wetting the web releases stresses locked into the fibers during the original drying. As a result, the web puckers and stretches so that it is difficult to control. Web breaks, wrinkles, and other damage cause considerable loss of the coated product.

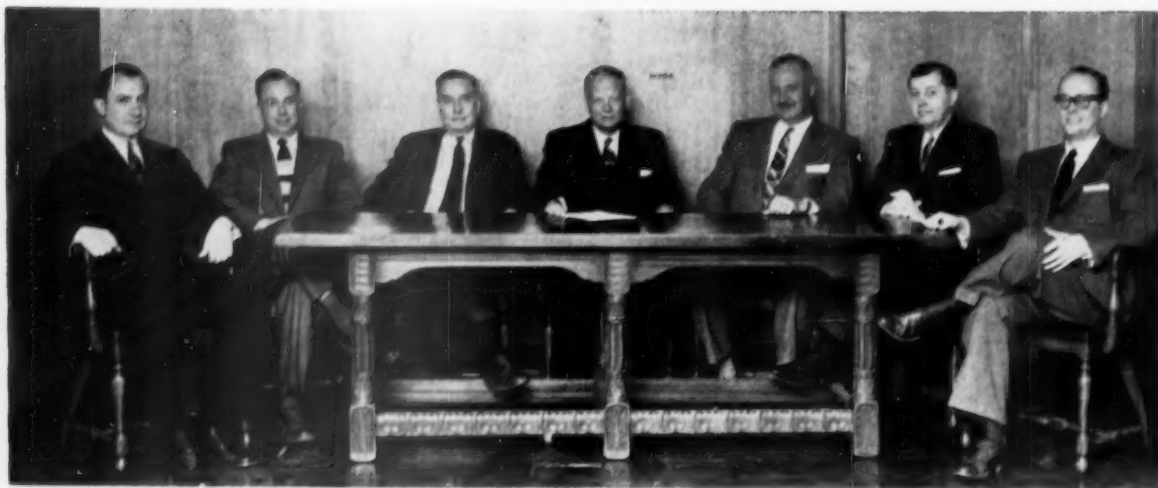
The new dry method of coating paper eliminates these problems caused by wetting the web. Where, in the conventional wet-coating techniques, water acts as a vehicle to transport the clay or other pigments and the water-soluble starch or casein binders, in the new process, air transports the coating material held in a heat-sensitive binder. Wetting the web is eliminated!

**HOW IT WORKS**—In the Bergstrom Coating Process, the coating material in powder form is suspended as a cloud in a moving stream of air. The coating is placed on paper by charging the powders electrically and driving them onto the web by a strong electrostatic field. The coating unit acts like an electrostatic precipitator with the paper web moving across the col-



**New Exclusive  
Picture of  
Electrostatic Coater**

This photograph shows a laboratory model of the Bergstrom Electrostatic Coater. For another picture of this radical departure from present coating techniques, using air rather than water as the vehicle for applying pigments, see page 51, July issue of PULP & PAPER.



**Management "Team" at Bergstrom Paper Co.**

Left to right: H. R. MOORE, Secretary; M. J. WILLIAMS, Asst. Sales Mgr.; BURT B. FISHER, Vice Pres. and Sales Mgr.; NATHAN A. BERGSTROM, President and Gen. Mgr.; FOS-

TER P. DOANE, JR., Vice Pres. and Production Mgr.; A. R. HEDLUND, Controller, and DEDRIC W. BERGSTROM, Treasurer and Purchasing Agent.

lector plate to intercept the powders driven to the plate. Coatings are fixed to the paper by fusing the heat-sensitive binder.

Distinct advantages are gained when paper is coated by the electrostatic process; however, some engineering problems related to the basic process have yet to be solved before unqualified predictions can be made about the commercial future of this process. These problems concern higher operating speeds for the coating operation, consistency of performance, and the development of special properties in the coating material.

**WHAT ARE ADVANTAGES?**—Results with the laboratory-scale equipment show that this process offers many advantages. As already mentioned, dry application eliminates puckering, and reduces tearing and breaking—inherent imperfections of paper coated by wet processes.

There are few imperfections to be trimmed out of the finished paper.

The machinery used in the process is simple and inexpensive; there are few moving parts in the complete coating unit.

Operation of the unit is efficient, and there is practically no waste or loss of coating material.

Perhaps versatility is the most distinguishing feature of the process. The same equipment can be used for applying a wide variety of coatings. Changing from one coating to another probably can be done in a matter of minutes, and the weight of the coating also can be changed easily.

**CAN COAT 70% PIGMENT**—Coatings with as much as 70% pigment

can be applied by this process. These coatings have properties of plastic coatings because of the resinous binder. Also, because of the high pigment loading, the properties are similar to pigmented coatings prepared by wet-coating systems. A wide variety of colored coatings can be made with commercial colored pigments. However, the coatings need not contain pigments; clear plastic coatings can be prepared also.

This process can be used to coat paper with many different materials such as mica, flock, and metallic pigments. Adhesive layers can be applied for making laminated foils and papers. Carbon paper and wax paper can be prepared also. The surface on the coatings can be varied from matte finish to high-gloss finishes.

**WHAT ARE COSTS?**—Costs for preparing dry-coated paper are believed comparable with those of conventional coatings. Operation of the deposition unit requires only a few watts of power, and the preparation of the coating powder would not be expensive when produced in commercial quantity. On the basis of production of a ton of coating powders per day, the cost of processing the material is small compared with the cost of the coating materials and paper. The cost of producing coated paper by this process will be governed largely by raw material costs. This will vary with the types of coatings produced.

The Bergstrom Coating Process is particularly suited for small job work and specialty coatings. The coated papers should find applications as water-resistant wallpaper base coatings, shelf papers, protective coatings, and

decorative papers. With further research, specialized coatings might be prepared for food packing also. The metallic coatings should find use as decorative papers as well as insulating coatings. It appears that the versatility of the process will make it suitable for producing many of the better-known types of coated papers as well as for making unique coated products in web form.

### **Unusual Processes Not Unusual at Bergstrom**

• Bergstrom Paper Co., with rated capacities for 105 tons a day of its Valkyrie line of supercalendered book, eggshell and English finish papers and also 65 tons of deinked pulp, has a history in Neenah, Wis., going back 80 years.

Winnebago Paper Mills, predecessor company, was built in 1875. The first of three Dedric W. Bergstroms, of successive generations, bought the Winnebago mill and founded the company bearing his family name in August, 1904. He was born in Norway in 1847, emigrating to America with his parents before he was 5 years old. They settled in the then-frontier pioneer village of Neenah.

His son, J. N. Bergstrom, was president from 1928-1949. Another son, Nathan H. Bergstrom, author of this article, headed the firm since 1949. The second Dedric W. Bergstrom, brother of J. N. and Nathan, was vice president and sales manager from 1928 until his death at the age of 46 in 1935. Another Dedric W. Bergstrom, son of the second Dedric W. Bergstrom, is now treasurer and purchasing agent of the company.

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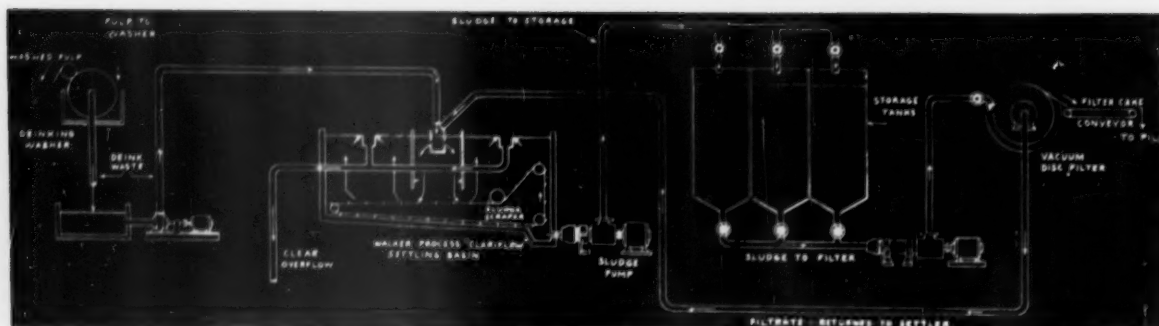
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### Flow of Bergstrom's Recently Added Disposal Plant

Friends of Bergstrom Mills expect to find novel installations there. For instance, this new Disposal Plant, where waste water containing ink, clay and sizing materials, removed from reclaimed paper, are treated. Design was based on extensive research. "Clariflow" Settling Basin has capacity for 115,000 gals.

This mill has two Fourdrinier machines, 142 in. (131 in. trim) and 157 in. (146 in. trim). They are about 220 ft. long and operate at up to 650 fpm.

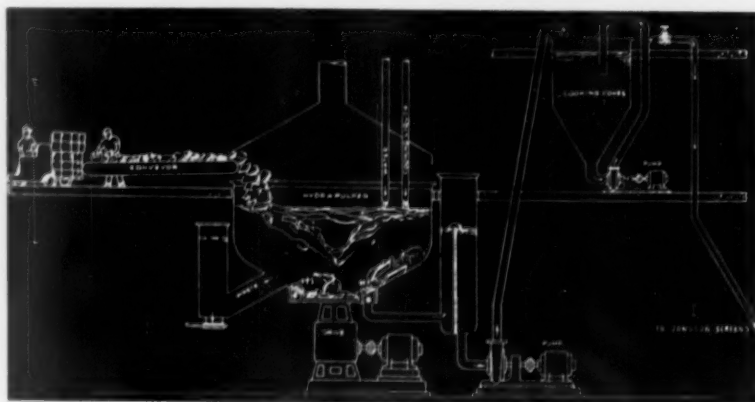
**HOW RECLAIMED PAPER IS PROCESSED**—A feature of the Bergstrom operation is its deinking and bleaching plant. The principal stages are: (1) Dilts Hydrapulper, where wastepaper—books and magazines from all over the country—is mixed with hot water, caustic soda and deinking chemicals; (2) cooking cones, where slush is steam-cooked and further broken down and deinked by chemical and mechanical means; then passing through Jonsson screens. An 8x14 ft. Oliver vacuum filter is employed to extract chemicals for re-use. (3) washing; (4) a three-stage bleach—chlorination, alkali extraction and hypochlorite; (5) screening—Shartle Selectifiers, and through Bauer Cleaners (formerly called Centri-Cleaners)—and another Oliver vacuum filter.

In two 2000-ton beaters, the deinked stock is mixed with purchased bleached or unbleached woodpulp, color, size, etc., after which five jordan prepare stock for the machines. Two supercalenders, trimming and finishing layouts follow the machines. Four coal-burning boilers, producing 2,700,000 lbs. steam daily, and two General Electric and one Allis-Chalmers steam turbines, totaling generation of 3700 kws (4950 hp) daily, are other major units.

**NEW INSTALLATIONS**—Among recent important additions are the Bauer Cleaners installed last year and the Bergstrom specially developed waste disposal plant shown in a "flow sheet" descriptive illustration accompanying this article. Bergstrom mill waste is creating fill for a valuable lakeside park addition at Neenah.

President Nathan Bergstrom was a pioneer of this industry's cooperative

Slow moving scrapers continuously draw solids toward outlet. The 12 ft. 6 in. vacuum filter at right (Oliver American disc type) has 10 large rotating discs covered with fine weave nylon filter bags (2,000 sq. ft. of filtration) through which water is drawn. Dry filter cake is carried by truck to a fill where Bergstrom is creating a valuable lakeside park addition.



### Another Interesting Process at Bergstrom

Here are Shartle-Dilts Hydrapulper and Bergstrom's cooking cones where old books and magazines are de-inked, steam-cooked and prepared for reuse by chemical and mechanical means.

community relations program. He was a founder of Information Service, Wisconsin Paper Industry, which conducts workshops wherein paper companies of the state get together, exchanging ideas on how to improve community relations; and he was chairman of the American Paper and Pulp Association's national committee for this purpose, which was largely modeled after the Wisconsin program.

**BERGSTROM TO ADD PLANT**—Bergstrom Paper Co. is planning a 280 x 280 ft., one-story high finishing operations plant, with two-story structure at one end for offices, locker rooms, and meetings. To be built on Highway 51, 2 miles southwest of Neenah, it will be completed in the spring of 1956.

It will be brick and concrete, with glass blocks on three sides, and glass window on one side, where finishing will be largely conducted. Duct work will be easily removable and buss bars will be demountable, for easy moving of equipment without changing electrical installations.

There will be provision for loading five freight cars at one time and three large semi-trailers. All air will be washed and humidified. A separate boiler plant and 100,000 gal. water tank will also be provided.

### Electronics May Change Paper Making and Printing

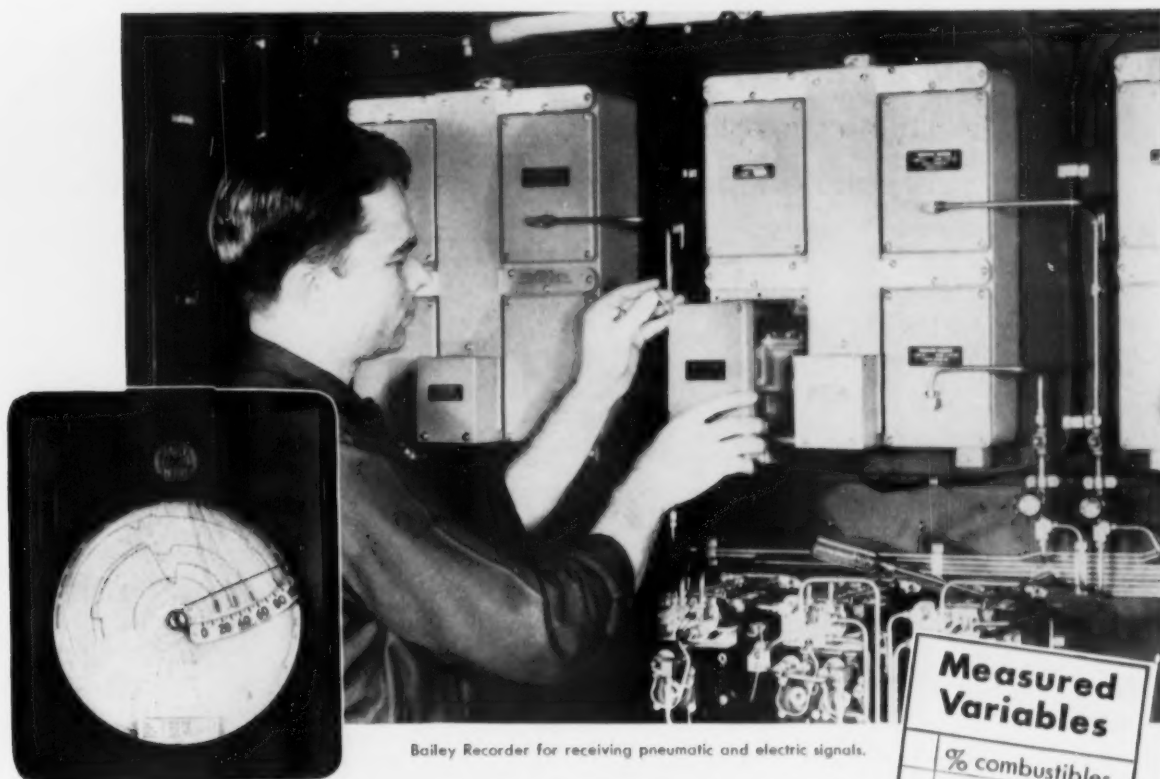
One highlight of recent TAPPI Coating Conference in Cleveland was announcement of a new coating process.

This electrostatic dry coating process stirred up so much interest that PULP & PAPER invited the head of the paper company which holds all rights to the new technique to give his views on it.

This is only one glimpse of new applications of electronics which may in the future revolutionize printing, as well as coating, and even other pulp and paper processes.

Printed pictures and texts have been printed by passing ink particles through an electrified screen. Could even a sheet of paper be formed by putting electric charges on fibers, and depositing them on a continuous wire or web?





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# What It Costs to Repair Digesters

Alkaline corrosion costs U.S.A. mills some \$2,000,000 every year; alloy deposit welding versus field strip lining.

By L. G. Pfeiffer  
Chief Engineer, Vessel &  
Brewery Equipment Products,  
A. O. Smith Corp., Milwaukee, Wis.

• Corrosion is costing pulp mills in the United States \$2,000,000 annually due to digester deterioration from alkaline corrosion.

This is based on the average corrosion rate of 0.31 in. per year or 22 cents per ton of pulp.

This problem was discussed during the annual TAPPI meeting held in New York in Feb. 1955. The general subject for discussion by the Subcommittee for Digester Corrosion was "Digester Design and Its Effect on Digester Corrosion in Alkaline Pulping." The committee for digester corrosion which was organized in Feb. 1950 has long recognized the high cost of corrosion in the production of woodpulp.

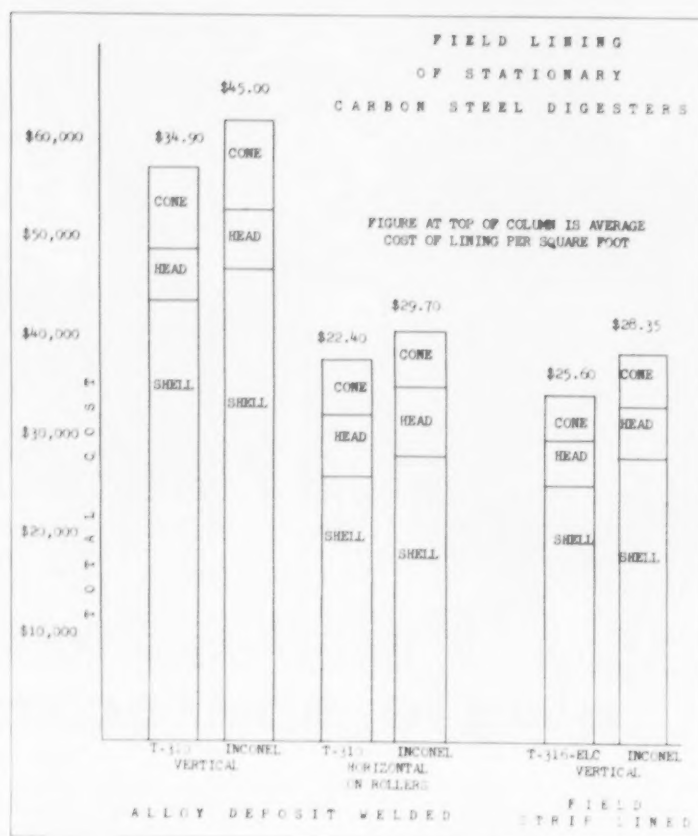
## COSTS OF CORROSION REPAIR—

One of the problems discussed, which was of particular interest to management, was the cost of repairing corroded surfaces of carbon steel digesters. A spirited discussion was held on the average cost per sq. ft. for alloy deposit welding and field strip lining. These cost figures were developed by one of the largest digester fabricators in this country and are shown on the chart (Fig. 1).

The costs were based on a typical stationary digester of following description: 11 ft. ID x 30 ft. tangent to tangent with a 2:1 elliptical top head, and 60° conical bottom head resulting in a total surface area of 1384 sq. ft. This chart clearly indicates that the cost of extending the life of a digester in the field with either alloy deposit welding or field strip lining is expensive, and it may be more economical to purchase a new digester.

The possibility of removing the digester from the line also should be investigated, as the cost would be reduced considerably providing that the repair could be made in a horizontal position on rollers. It is always easier and more economical to be able to weld in a downhand position.

(Prepared especially for PULP & PAPER and based on information collected from members of TAPPI Committee for Digester Corrosion).



BASED ON 11-0 ID X 30 T TO T WITH 2:1 ELLIPT. TOP HEAD AND 60° CONICAL BOTTOM HEAD TOTAL SURFACE AREA 1384 SQ. FT.

FIG. 1—Cost Figures for Alloy Deposit Welding and Field Strip Lining of Kraft Mill Digesters

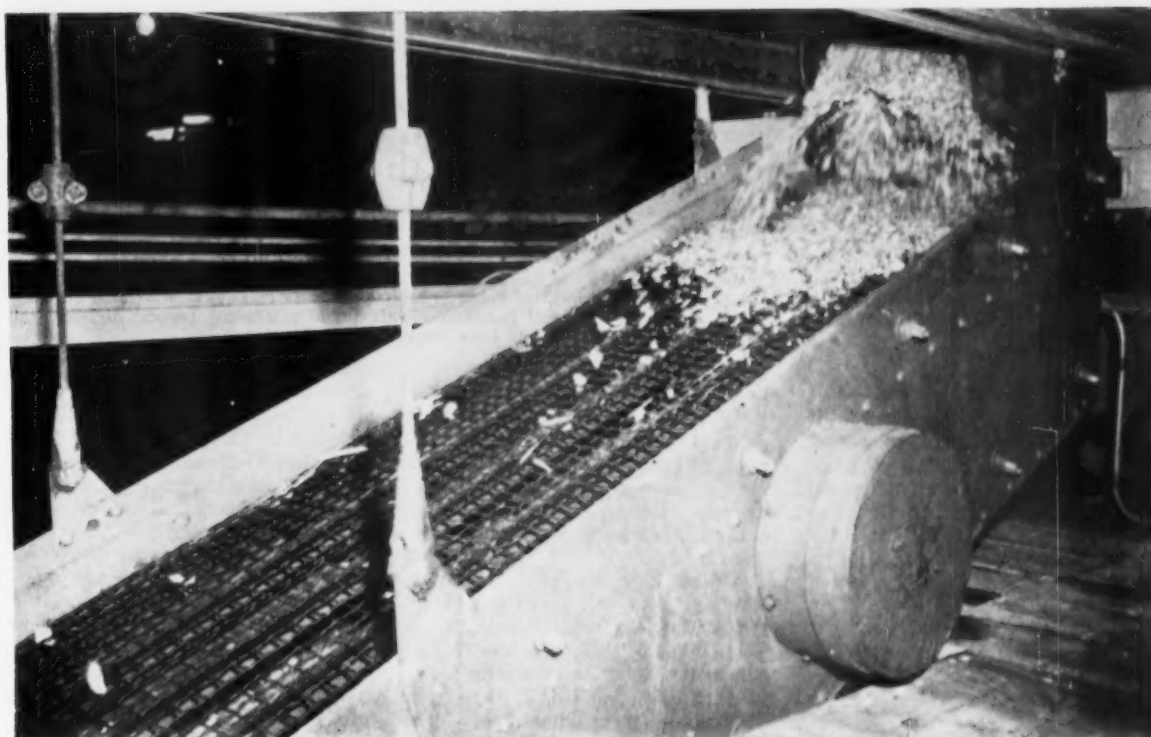
**COMPARES TWO ALLOYS**—As the 18-8 Moly stainless and Inconel materials have proven to be satisfactory in alkaline pulping, the chart was completed to show a comparison between these two alloys. The amount shown at the top of each block is the average cost per sq. ft. of lining. The total cost is indicated at the vertical line to the left of the graph. In some cases it may not be necessary to line the entire digester, so each block on the graph is divided into shell, top head, and bottom cone.

The strip lining welding procedure detail was developed employing a 5-man crew. The liner materials, welding material and shop labor for shearing

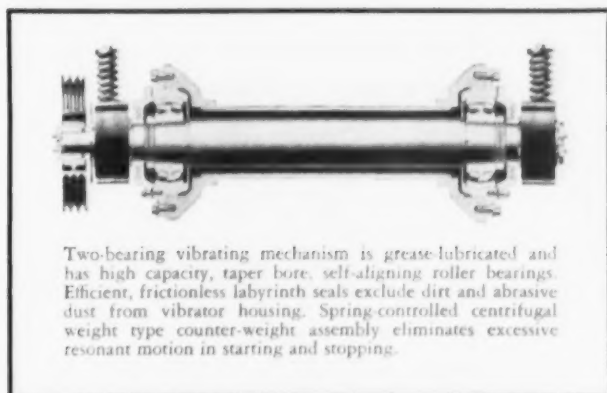
the lining sheets into strips and beveling the edges of the strips for welding were used in developing these costs. The field labor cost included no overhead or burden.

**HOW WORK WAS DONE**—The working operations were fitting, tack welding, final welding, and cleaning with the 5-man crew alternating operations. The intermediate butt weld seams were figured, employing 5 beads with  $\frac{3}{4}$  in. thick strip lining material. The 5-man crew output was based on an 8-hour day and was broken down to a total of 7 sq. ft. for overhead, 10 sq. ft. for shell, and 8 sq. ft. for the cone per 8-hour day. The average labor rate was \$3.00 per hour per man. The cost did not include any stress relieving or leak testing of the

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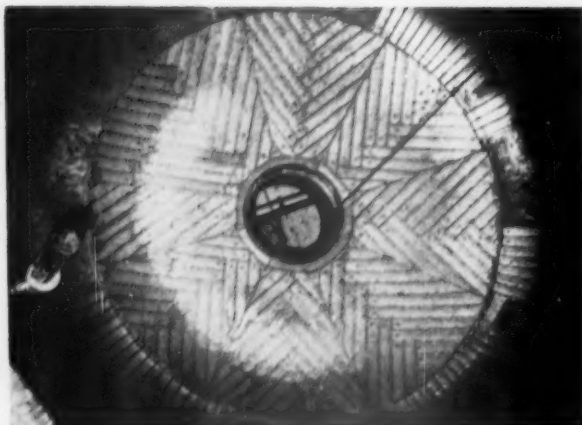
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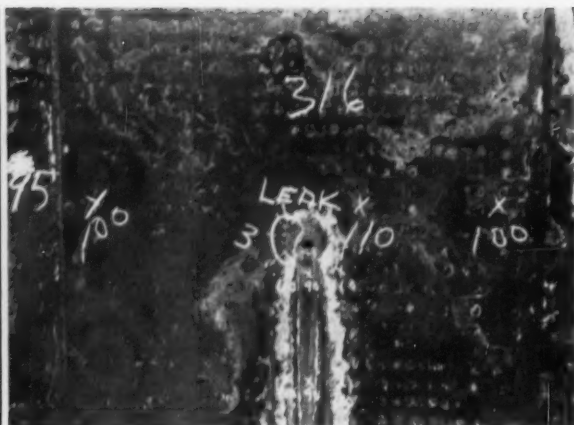
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**FIG. 2—Strip Lining Inside a Digester**

View of partial strip lining in the top head of a 17 ft. diameter digester. Each Hastelloy F strip liner has been leak tested before the digester has been returned to service.



**FIG. 3—Why Nozzle Position Was Costly**

Liquor streak from  $\frac{1}{2}$  in. pressure indicating nozzle has caused T316 lining in kraft digester to become thinned .020 in. Original installation with nozzle protruding beyond digester wall would have prevented this thinning.

strips.

The alloy deposit welding procedure was based on a single pass with 25% chrome, 20% nickel, T310 overlay and minimum surface preparation. After completion of the alloy deposit, no peening or grinding is to be done. Only visual inspection on the finish surface was included.

**HERE ARE COST FIGURES**—From the chart (Fig. 1), the costs range from a maximum of \$62,280 for alloy de-

posit welding with Inconel to a minimum cost per digester of \$35,430 using the stainless 18-8 Moly T316 strip lining, providing that repairs are made in a vertical position. Fig. 2 shows a portion of a 17 ft. diameter digester. The herringbone pattern is employed for applying the strips.

Another topic discussed was streak corrosion, and this is illustrated in Fig. 3. The lining was thinned .020 in. from original thickness of  $\frac{3}{64}$  in. due to the liquor leaking from  $\frac{1}{2}$  in. pressure indicating No. 2.

There were many other topics which were brought out, and these will be fully reported at the Nov. 7-9 TAPPI meeting in Houston, Tex. (Rice Hotel). They will also be reported in a subsequent issue of PULP & PAPER.

The entire committee was canvassed and group leaders were assigned to discuss these subjects. The initial paper for the meeting in Houston, will include five subjects:

**Subject I**—Can systems of circulation be standardized to minimize preferential corrosion attack because of non-uniform circulation within a digester? Discussion by R. J. Pennington, National Container Corp., Jacksonville 1, Fla.; and C. W. Smith, Crossett Paper Mills.

**Subject II**—Supports for digesters, pedestal type vs. skirt ring support and its effect on corrosion attack over the cone or bottom head area. Discussion by W. B. Parker, Hartford Steam Boiler Inspection and Insurance Co., and J. J. Goss, Gaylord Container Corp.

**Subject III**—Design of internal projections and means of baffling to protect the digester walls from streak corrosion attack. Discussion by H. B. Harris, Union Bag & Paper Co.; and W. J. Darmstadt, Babcock & Wilcox.

**Subject IV**—Surface preparation of alloy and carbon steel digesters. Discussion led by M. A. Scheil and E. H. Schmidt, A. O. Smith Corp.

**Subject V**—Stress relief and radiography of sulfate digesters. Discussion by H. M. Canavan, Mutual Boiler & Machinery Insurance Co.

Another technical paper on **Subject VI** will be prepared for a future meeting covering field repair of existing sulfate digesters and broken down into the following items: a) Alloy weld deposit or overlay over corroded area; b) Alloy strip covering or lining; c) Metallic spray; d) Sheet lining; e) Carbon steel weld overlay; f) Cathodic protection; g) Gunite and plastic application; h) Electro-plating; i) Carbon brick. Discussion by E. W. Hopper, Crucible Steel Co. of America; E. W. Keith, Penobscot Fibre Co.; H. M. Canavan, Mutual Boiler & Machinery Insurance Co.; W. B. Parker, Hartford Steam Boiler Inspection and Insurance Co.; H. O. Teeple, International Nickel Co.; N. Shoumatoff, West Virginia Pulp & Paper Co.; and Beaumont Thomas, Stebbins Engineering & Mfg. Co.

#### New Use For Paper!!

True Magazine reports a new use for toilet paper in the Shasta National Forest of California. Because ground crews searching through rugged terrain sometimes could not locate a small fire or single burning tree that had been seen from the air, a method was needed to show them the exact spot. Low-flying planes now drop a toilet paper roll which drapes over treetops and brush to make a visible marker. They fold back the first 3 feet of paper in accordion pleats that will catch the wind, and keeping the roll perfectly round, so the ribbon will unroll without breaking.



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## PULP & PAPER'S PICTURE NEWS OF THE INDUSTRY



### Nicholson Heads Planning; Dunn Over All Operations

G. W. E. NICHOLSON (left), former Executive Vice President in charge of Manufacturing, has been appointed Executive Vice President in charge of Future Planning and Expansion for Union Bag & Paper Corp. In his new capacity, Mr. Nicholson will be responsible for correlating the company's future plans with developments in the rapidly growing paper industry.

THOMAS T. (TAD) DUNN (right), former Vice President and Resident Manager at the company's Savannah plant, has been appointed Vice President in charge of Manufacturing. In this position, Mr. Dunn will assume full responsibility for all manufacturing and woodlands operations in the company.



### Promotions in Crown Zellerbach

HOWARD GREEN (top left), now Supervisor of Production Planning at San Francisco headquarters. He was Production Planning Supervisor at Camas Mill. He grew up in Portland, Ore.

LEE F. MAYBACH (top right) is new Project Engineer in Charge of Construction for Crown Z mill being built at Antioch, Calif. He was Project Engineer for Processes at the Camas Mill, where he spent 21 years of unbroken service. Month of August he spent in Seattle at CZ Central Engineering.

LEONARD R. GREGER (lower left) who will supervise all electrical equipment installations at the new Antioch Mill. Until next March he will work in Central Engineering in Seattle. He had been Asst. Supervisor of Electrical Maintenance and Operation at Camas.

HOWARD HALL (lower right), newly named Technical Supervisor of Crown Z's subsidiary mill, St. Helens Pulp & Paper Co. He was Pulping Schedule Coordinator at Camas.



### Honors for Dr. Lewis; Dr. Diehm at West. Mich.

DR. HARRY F. LEWIS (left), Dean of the Institute of Paper Chemistry, has been honored by being awarded the Mitscherlich Medal of the West German pulp and paper industry, equivalent in that country to the TAPPI Gold Medal in U.S.A. He came to Institute, Appleton, Wis., in its second year—1927. Last May 27, his 64th birthday, there was an ovation for him at the Executives Conference.

DR. R. A. DIEHM (right), former Executive Vice Pres. and Mgr. of Ward Paper Co., is new Associate Professor of Paper Technology at Western Michigan College. A native of Avilla, Ind., the 51-year-old Dr. Diehm took undergraduate work at Purdue and Rutgers, received his master of science degree in 1928 and his ph.d. degree in 1930. From 1929 to 1942 he was with Rohm & Haas Co., in technical service. In 1942 he joined Container Corp. of America as Technical Director. After four years he became Director of Research and Development for the Cuneo Press in Chicago. In 1947 he moved to Ward Paper, first as Technical Director.



### New Executives at Antioch And Vancouver for Crown Z

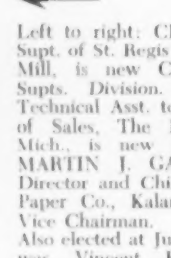
GLENDON F. LOFTUS (left), is going to be the Office Mgr. of Crown Zellerbach's kraft paper mill being built at Antioch, Calif., taking over his duties Sept. 15. He has been a veteran Office Mgr. for CZ, recently at Seattle, before that in Port Angeles, Wash., and Carthage, N.Y.

WOLFE C. GIGLER (right), new Resident Mgr. of Crown Zellerbach Canada Ltd.'s converting operations. He was Plant Supt. of Converting at San Leandro, Calif., and before that at the Camas, Wash., mill.



### Lientz Succeeds Dunn; Charbonnier Moves Up

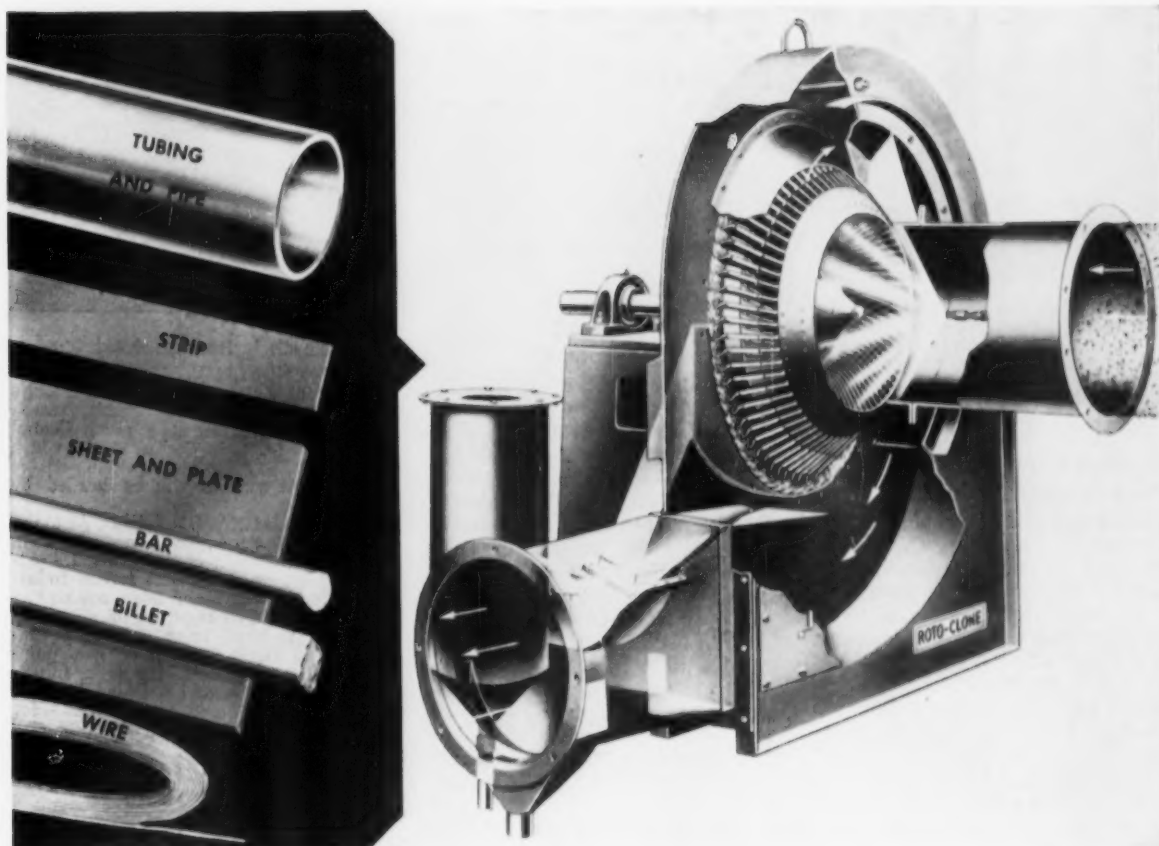
JAMES R. LIENTZ (left), has been named Manager of Union Bag & Paper Corp.'s Savannah operations and HAROLD Y. CHARBONNIER (right), new Manager of the Savannah Pulp and Paper Division, according to Mr. Dunn, Vice President in charge of Mfg. Mr. Lientz will be responsible for operations of the Savannah plant's Pulp and Paper Div., Box Div., Bag Div., Technical Div., Industrial Relations Div., and Planning and Scheduling Dept. Mr. Charbonnier assumes direct supervisory control of the Pulp and Paper Div.



### Elected at Kalamazoo

Left to right: CLAUDE BOS, Coating Supt. of St. Regis Paper Co.'s Kalamazoo Mill, is new Chairman of Michigan Supts. Division. MARSHALL RUTZ, Technical Asst. to Vice Pres. in Charge of Sales, The KVP Co., Parchment, Mich., is new First Vice Chairman. MARTIN J. GALBRAITH, Technical Director and Chief Chemist, Sutherland Paper Co., Kalamazoo is new Second Vice Chairman.

Also elected at July 12 Fun Day meeting was Vincent Redmonds, Kalamazoo Paper, as Secretary.



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For instance, the unique dust handling unit, over 8 ft. high, shown above was made *entirely* of Carpenter Stainless No. 20 and No. 20Cb for a chemical company to provide long-life corrosion and abrasion resistance to dust and vapor containing sulphuric, nitric and hydrofluoric acids, and sodium aluminum sulphate.

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For data on corrosion resistance, properties, performance results, uses, and fabrication of Carpenter Stainless No. 20 and No. 20Cb, ask for Bulletin 108A.

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Carpenter No. 20 bars, strip, wire and billets are available also from The Carpenter Steel Company, Reading, Pa.



CLIFF R. CRAWFORD (left), President of Black-Clawson, who announced plans to materially expand production capacity.  
FRANK T. PETERSON (right), Executive Vice President, recently also elected a Director of Black-Clawson.

### Blackson-Clawson Plans More Productive Capacity

• The board of directors of the Black-Clawson Co., Hamilton, O., recently approved long-range expansion plans covering the next 12 to 24 months.

Uppermost in the program is extensive tooling and foundry expansion in the Bagley-Sewall Division, Watertown, N.Y. Program also calls for continued expansion in Black-Clawson's overseas operations in England. Black-Clawson International is building three machines at its expanded Newport, England, plant and has tripled its staff there.

The expansion program was submitted by President Cliff R. Crawford who called for "plans for materially strengthening the company's production capacity to meet anticipated future market demands as well as the current high volume of business."

This is in line with Black-Clawson's intensified activity in production of Fourdrinier paper machines. Emphasis is being placed upon machines for the high speed production of newsprint and kraft.

Said Mr. Crawford: "This increased activity in engineering design and the manufacture of large, high-speed Fourdrinier machines does not indicate any change in the company's production of cylinder type machines for the manufacture of paperboard."

### PETERSON NAMED DIRECTOR—

Frank T. Peterson, executive vice president of Black-Clawson, has been elected a member of the firm's board of directors. The young executive joined the company in 1947 and has devoted a great portion of his time in spearheading Black-Clawson business abroad. He is currently a director of the company's British-European subsidiary.

A graduate of Syracuse University, where he holds a B.S. degree in mechanical engineering, Mr. Peterson also worked extensively in developing

the company's export operations. In 1954 he authored the article, "How To Improve Inter-American Trade" in PULP & PAPER, Sept., 1954 issue.

His early work with the company was in northern New York but he soon was in Europe, stationed in England and working in European countries. He lives with his wife and 3-year-old daughter, in White Plains, N.Y. Mr. Peterson retains a private pilot's license.

### Pioneers New Plant For Kraft By-Product

Dimethyl sulfide, made from kraft processed liquors, will be a new Crown Zellerbach entrant in the field of bulk organic chemicals.

A pilot plant is being constructed at Camas, Wash., to produce 2,000,000 lbs. a year. It should also substantially reduce kraft mill odors.

Crown Z has created a new Chemical Products Division under Dr. W. W. Hearon, general manager, to develop ideas for new products from pulping wastes for production and sale when proved commercially feasible.

"We are confident we will be able to produce a number of salable products from lignin and other wastes," said Vice President Reed O. Hunt.

Dimethyl sulfide is CZ's second venture in chemical products. Since 1953 it has marketed Orzan, made from evaporated ammonia base sulfite liquor at Lebanon, Ore., and spray-dried to a powder. Sales increased 35% in 1954. It has 21 uses, from an ingredient for gypsum board to soil conditioning.



### New Hooker Field Men

GEORGE CHYNOWETH, left, and JOSEPH J. LENAHA right, have been appointed new Field Representatives for Hooker Electrochemical Co. Mr. Chynoweth is a native of New York City and a graduate of the University of Wisconsin. He served as a radio operator for three years in the Air Force and is presently working in Illinois, out of the new Chicago office. Mr. Lenahan is Wilkes-Barre, Pa., born and was educated at Catholic University of America where he received a chemical engineering degree in 1951. His sales territory is western Pennsylvania and West Virginia.



### Research Is Reorganized

DR. WENDELL W. MOYER (left), Director of Research, Crown Zellerbach's Central Research Dept., Camas, Wash., who is reorganizing its growing Central Research Dept., in Camas, Wash., which he heads. Fundamental research and development sections will be headed by specialists.

DR. W. M. HEARON (right), Asst. Director of Research, has been named Gen. Mgr. of newly-created Chemical Products Div., which replaces former Industrial Products Div. and takes over part of Central Research Dept. organization. Reporting to Reed Hunt, V.P. of Operations, he heads research on new pulping wastes products. He is a former M.I.T. instructor and obtained his doctorate at M.I.T., and was in research for Eastman and the Manhattan Project.



### Hold Key Posts in Research

DR. KEN J. BOOTH (left) is Manager of Administrative Services, and DR. J. S. BARTON (right) is Manager of Paper Research in the newly re-organized Crown Zellerbach Central Research Dept.

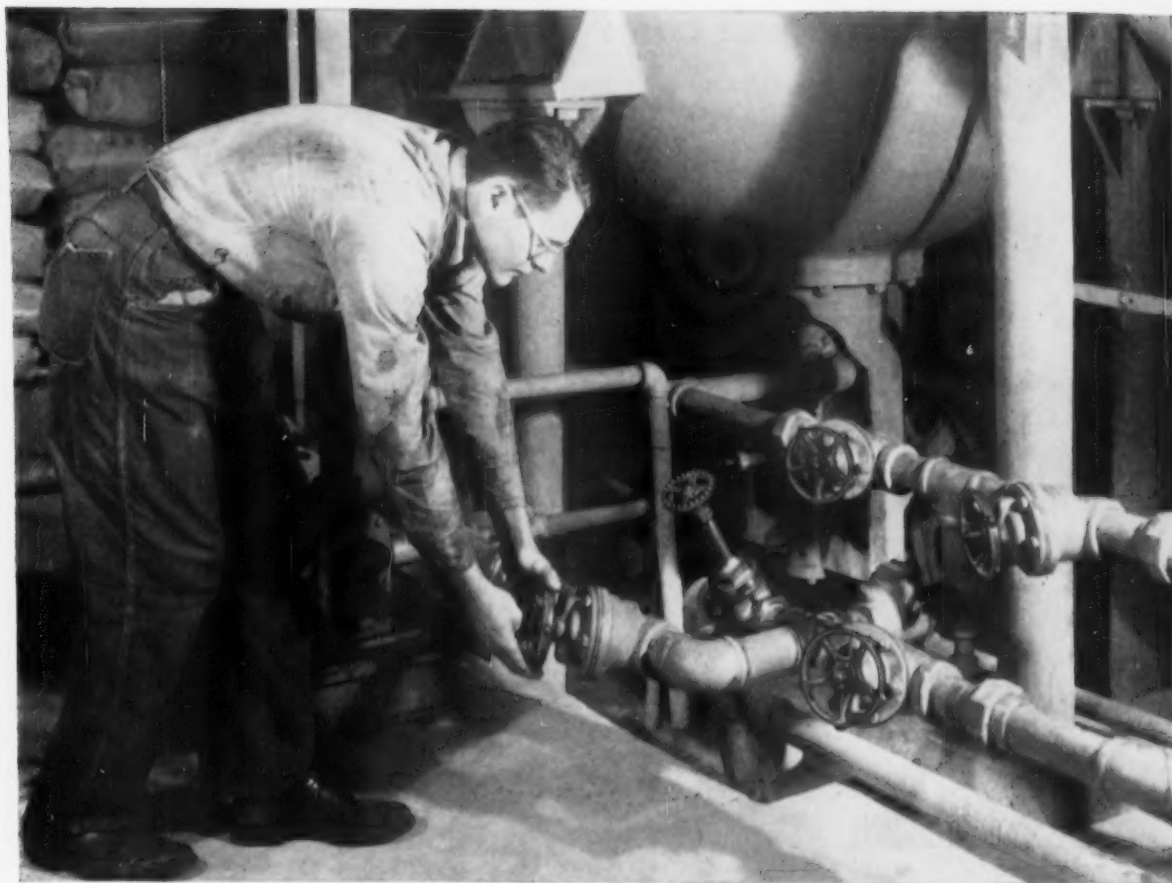
Other department heads are: DR. W. C. MEYER, Manager of Process Development; DR. J. D. WETHERN, Supervisor of Fibre Research, and H. W. THELLER, Supervisor of Product Development.

### Builds Largest Turbine For Paper Industry

The largest steam turbine-generator in the paper industry will be built for International Paper Co., by General Electric, according to L. D. Whitescarver, manager-marketing of G-E's medium steam turbine generator and gear dept.

The 40,000 kw single automatic-extraction condensing unit will be installed in IP's new \$20,000,000 newsprint mill being built adjacent to present operations in Mobile, Ala.





## Heavy fluids can't hinder working parts in these CRANE VALVES

**THIS CASE HISTORY** tells how the United States Playing Card Co., Cincinnati, solved—with Crane Diaphragm Valves—a costly problem of piping heavy enamels for paper coating.

The trouble was in the plug cocks and conventional gate valves formerly used in the enamel lines. During normal shutdowns the heavy liquid would build up on seating surfaces, in stem threads and working parts. The cocks and gates would "freeze up" . . . were hard to operate . . . couldn't be shut tight. The condition hampered production . . . made floors messy and dangerous . . . pushed maintenance costs sky-high.

Replacing with Crane Packless Diaphragm Valves stopped the trouble completely. Their sealed-to-fluid bonnet and pliable neoprene disc insert did the trick. After more than 4 years, all 48 Crane valves installed—with no maintenance whatsoever—are still seating tight . . . still operating freely and smoothly.

### CRANE PACKLESS DIAPHRAGM VALVES

Working parts are safely out of contact with line fluid. The diaphragm seals the bonnet—that's all it does, giving it longer life. The independent disc with pliable insert seats tightly on foreign particles or seat deposits . . . and controls fluid, even should diaphragm fail. See your Crane Catalog or Crane Representative for wide selection of body, bonnet, and trim materials in these valves for countless uses.



# CRANE CO.

General Office: 836 S. Michigan Ave., Chicago 5, Illinois  
Branches and Wholesalers Serving All Industrial Areas



**VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING**

**CRANE'S FIRST CENTURY . . . 1855-1955**

## Zellers Recalls "Voice of Henry Ford"

**F. LEROY ZELLERS** — Recalls contacts with late "Voice of Henry Ford."



F. Leroy Zellers, mill manager of Chillicothe Paper Co., recalled to a PULP & PAPER editor one of the most interesting experiences of his life when the news came over the wires recently from Oakland, Calif., of the death there of William J. Cameron, the famed "Voice of Henry Ford"—Ford's public relations spokesman and the man who got Ford into a \$1,000,000 racial slander libel suit, settled out of court.

When Roy Zellers was national president of the Superintendents Association back in 1938-39, he was pacing a station one night in St. Louis, thinking of a speech he had to make to Southern Superintendents in Monroe, La. In the gloaming, another man was doing the same thing—only his

speech was to be given in Kansas City.

They struck up a friendship that was to last for years, and the other man—Mr. Cameron—was later persuaded by Mr. Zellers to be the leading speaker at the June 1939 national convention of the Superintendents in the Wardman Park Hotel, Washington, D.C. After the speech, Mr. Zellers helped to spirit Mr. Cameron out of a back door of the hotel, because Roosevelt supporters, who bitterly hated the Ford spokesman, plotted to bring off a scene in the hotel to embarrass him.

### Alcorn Was, In Effect, Schoenwerk's Successor

More details have been received regarding the death, as reported last month, of Gerald F. Alcorn, 47, construction engineer of Weyerhaeuser's Pulp Division, who died July 29 at a Tacoma, Wash. hospital. He became ill at his Longview home July 24 and was taken to Tacoma three days later. Mr. Alcorn was born May 13, 1908 at Yakima, Wash.; attended University of Washington where he made the varsity crew (rowing) and graduated in 1931. He joined Weyerhaeuser Longview division that same year and transferred to Everett as technical director in 1936 when that pulp mill was established. Later he became manager there.

Subsequently, in 1948, he returned to Longview to assist in constructing the new Weyerhaeuser sulfate mill. He took the pulp division engineering post in 1950; in effect, succeeding Otto Schoenwerk in work he did as a consultant. Mr. Alcorn had charge of constructing the Weyerhaeuser kraft mill, the neutral sulfite semi-chemical addition at Longview, and, at time of death, was in charge of planning and building the new Weyerhaeuser pulp mill at Cosmopolis, on which construction is scheduled to start within a few months.



### New Posts in Black-Clawson

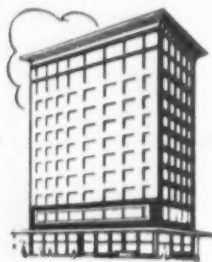
**JACK MCKELA** (left), former member of Black-Clawson staff, who has rejoined its Shartle Division sales staff. For two years he had been Mgr. of Atlas Paper Board Co., Long Island City, N.Y.

**JOHN KOLYBABA** (right) has joined Bagley-Sewall Division of Black-Clawson. He has been Project Engineer with a Canadian machine building firm. Before that he was with KVP Co. Ltd. at Espanola, Ont., in charge of bleach plant and groundwood mill.

### Miller Killed in Crash; Stepson of Frank Hoholik

Malcolm Miller, 29, stepson of Frank Hoholik, mill manager, Manistique (Mich.) Pulp & Paper, newly appointed Dorr-Oliver representative in Ohio-Michigan-Indiana territory, had made his first and only mill call on his new assignment at Champion in Hamilton, O., when he was fatally injured in an automobile crash at Goshen, O., June 17. He was on his way to his second call at Chillicothe by a road bypassing Cincinnati. A young man, resident of Ohio, with him was killed.

Mr. Miller had been with Oliver United Filters and Dorr-Oliver only a year and a half, and had attended the Cincinnati Supts. convention that same week. He had been service man working under Anthony W. Huberty, Midwest Dorr-Oliver industrial sales representative to this industry. Young Miller left a widow and one child.



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- Pleasure Eating.

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- Distinctive • Guest Rooms.

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- WEST (U.S. 61 SOUTH)  
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## MEMPHIS, Tennessee



## Relief... for a production pain

What's your particular "ache"? Looking for ways to cut costs...improve production...speed plant operations...reduce maintenance costs?

Here's a prescription that can provide an effective solution for you... the specialized service offered by your Chain Belt Field Sales Engineer and the outstanding performance of Chain Belt Equipment:

**for example:** If you want to increase capacity of your wood chip belt conveyors, Rex Wood Chip Idlers are your answer. Because concentrating rolls are sloped at a 45° angle instead of 20°, you can load chips close to the belt edge without spillage...increase conveyor capacity considerably.

**for example:** Tried belt transportation for logs? Where conditions are right, belt conveyors can help you increase production...reduce pulpwood handling costs. And, Rex Extra Heavy-duty Flat Belt Idlers are designed especially for this service...to operate efficiently with logs piled high on the conveyor.

**for example:** If maintenance is your problem, here's a suggestion. Use Rex Split Hardened Rim Traction Wheels and Sprockets. Just install the body, then each rim segment. Replacement of rim section can be done without removing the chain. Down time can be reduced with these long-wearing traction wheels and sprockets.

Whatever your needs...drive chain, conveyor and elevator chain, complete elevators, belt conveyors, feeders, roller bearings, buckets or sprockets, you'll relieve those production pains by looking to Chain Belt. See your local Field Sales Engineer or write direct to Chain Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wis.

# CHAIN BELT COMPANY

District Sales Offices and Distributors in all Principal Cities

**CELGAR COMMITTED TO NEW 300-TON MILL.**—Celgar Development Co., subsidiary of Celanese Corp. of America, finally reached agreement with the British Columbia government late in July on the terms of its forest management license covering 857,000 acres in the Columbia River-Arrow Lakes district and committed itself to construction of a 300-ton pulp mill near Castlegar at an estimated cost of \$30,000,000.

Work on this project, however, need not be started before the spring of 1958 or completed until March 1, 1961, but it is expected the production stage will be reached before then.

The license requires the company to operate mills that will use 144,000,000 ft. of logs annually, and while most of them will originate on the licensed area, the government has established three public working circles near that location and an allowable annual cut of 38,000,000 ft. has been provided, so considerable pulpwood will be drawn from these forests as well. The project is regarded as the first step in a larger undertaking. It is the first of its kind to be established inland in British Columbia, all others being on tidewater.

**WHAT MERGERS MEAN IN CANADA.**—Mergers and acquisitions in Canada's pulp and paper industry in recent months, resulting in U. S. companies obtaining greater control, have been under discussion among Canadians, and the question has been raised as to whether the over-all effect is good for Canada. Questioners have in mind transactions which increased Canadian holdings of such companies as Rayonier, Crown Zellerbach, Scott Paper, St. Regis, International Paper, West Virginia Pulp & Paper, and Celanese Corp. of America.

J. D. Zellerbach, president of Crown Zellerbach Corp., whose company has been in business in British Columbia since 1928 and whose assets in that province now have an estimated book value of \$100,000,000, has one-third of its planned \$85,000,000 expansion over the next two years earmarked for Canada, addressing the Vancouver Board of Trade, he said that he was aware of some concern being felt about the influx of American companies into Canada and whether this presaged some sort of "Yankee imperialism."

He denied that Canada had any-



**They Opened New West Coast Plant**

Here are four top executives in Martin Paper Products, Ltd., corrugated container manufacturing subsidiary of Powell River Co., Vancouver, B.C., which recently opened a new plant at New Westminster (l to r): GEORGE B. HILLS, Executive Vice President of Martin, who formerly was in charge of new development for Powell River Co.; HAROLD S. FOLEY, Chairman of the Board, Powell River Co.; GEORGE A. HOLLAND, Vice President in charge of the new Martin plant; FRANK H. BROWN, president of Martin and of Kitimat Pulp & Paper Co., which Powell River Co. and Aluminum Co. of Canada are sponsoring in northwestern British Columbia.

thing to fear from large-scale entry of American capital into its forest industry, and expressed the opinion that Canada's expansion would be much slower if it had not been for this influx of money from the U. S. He stressed that American companies operating in Canada did so according to laws made by Canadians, not Americans. "Capitalism with a conscience is our best guarantee of a promising future," declared the C-Z president. "It provides, I think, some real clues to ways in which all of us can further Canadian-American business relations and contribute to continued North American prosperity and to a better world."

"It seems to me that American companies can contribute significantly to Canada's development and also promote Canadian public interests. Such companies operate on the principle that what's good for Canada is good for the company. Such companies try to be good Canadian citizens, rather than schizophrenic personalities with divided loyalties and interests."

"The progressive American company rejects exploitation; it manages Canadian natural resources for the long-range benefit of the Canadian economy—for it expects to stay in Canada for a long time."

Present plans call for expenditure of some \$30,000,000 by C-Z in British Columbia in the next two years, including modernization of Canadian

Western Lumber Co.; construction of a Lulu Island converting plant, addition of a kraft pulp mill, paper machine, bleach plant and sawmill at Duncan Bay operations of Elk Falls Co.

**NOISE CONTROL AT THUNDER BAY.**—Noise control has been studied at Abitibi mills, and at Thunder Bay a portable sound-proof booth has been installed in the machine room. It sits in the aisle at the wet end between the two paper machines to afford occasional relief from the high noise level experienced at present machine speeds.

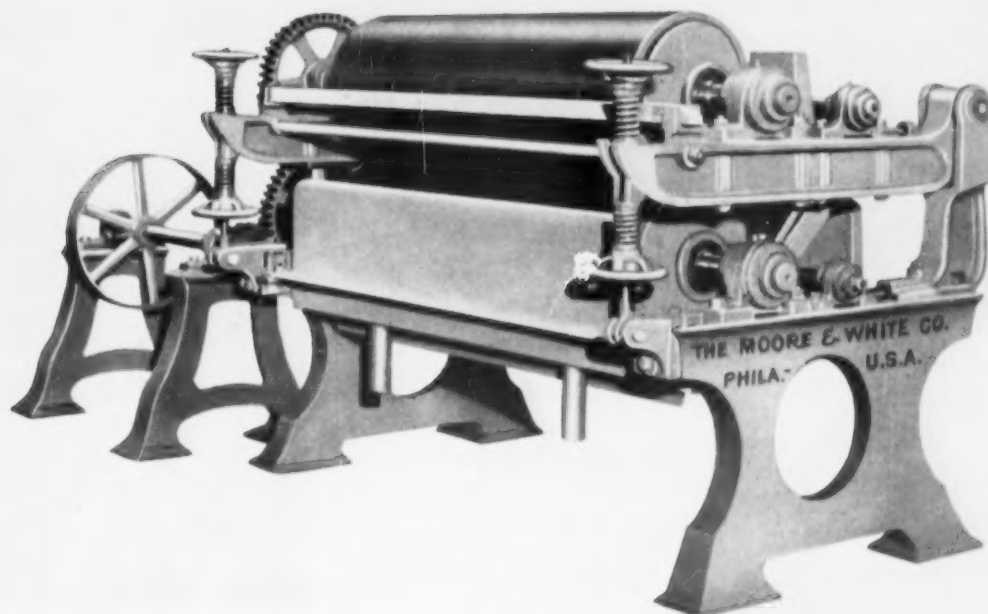
Powell River and some other mills have adopted similar tactics in meeting the noise situation, but Thunder Bay's booth is approximately 6 x 8½ ft., soundproof throughout and fitted on all sides with double glazed windows set in rubber. All interior trim is hardboard from Abitibi's Sturgeon Falls mill—treated grade on the floor and counter top, perforated grade on the walls and ceiling.

Machine room air is supplied for ventilation and air is circulated through baffled tunnels to absorb the noise. Power for lighting, fan operation and a buzzer from the dry end are supplied through plug-in connections in one end wall. The booth is located adjacent to the first presses during operation and is readily movable for repairs and wire changes, being mounted on rubber-tired, ball-



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gives you fast production of board with any number of laminations



The design of the efficient, precision-built Moore & White Sheet Paster has been developed by many years of experience. This dependable paster is now available with many significant improvements, featuring—

- Positive control of pasting agent on both top and bottom rolls
- Ball bearings throughout; machine-cut gears
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- Ground surfaces on all rolls
- Pasting agent applied to both sides of sheet
- Adjustable for any thickness of board—for any number of laminations

- Operating speed, 250 feet per minute
- Average production, 1½ to 2 tons of finished board per hour, depending upon weight and grade

Silicate of soda used varies from 65 to 120 lb. per ton of finished board. A 3 hp motor is recommended to drive the paster and circulating pump—actual power consumed approximates 1½ hp.

We can furnish the Moore & White Sheet Paster in any width to suit your requirements. (Circulating pump to be used with paster sold separately, if desired.) Write us today for prices and further information you may need.



Circulating pump used with M&W Sheet Paster

**The MOORE & WHITE Company** 330 EAST HUNTING PARK AVENUE • PHILADELPHIA 24, PA.  
CUSTOM-BUILT MACHINES FOR MAKERS OF PAPER AND PAPERBOARD

In the New England states, Moore & White is represented by Orton Corporation, Fitchburg, Mass. West Coast representative, Stephen Thurlow, Seattle, Wash.

bearing wheels.

Machinetenders and superintendents find the booth is convenient to carry on conversation in normal tones. Machine operation can be watched adequately for short periods under more pleasant surroundings in this quiet haven.

**C-Z ADDS TO HOLDINGS**—Crown Zellerbach Canada has added to its holdings through purchase of Bartram Paper Products Co., Vancouver, B. C., paper bag manufacturers.

C. A. Bartram, president of the Bartram company, established by his father in 1925, offered the ordinary

shares to C-Z for more than \$1,000,000, and the offer was accepted. No changes in the name of the company, policy or personnel are planned.

**POWELL CHAIRMAN OPTIMISTIC**—Harold S. Foley, chairman of Powell River Co., is not among those who foresee a decline in newsprint demand. One of the reasons for his confidence is probably the fact that earnings in all divisions of the big British Columbia producer for the first half of this year showed an increase over the corresponding period in 1954. Tonnage of newsprint produced and sold reached a new high.

"The newsprint market is very strong," reported Mr. Foley, "with world-wide demand in excess of available supply, and our production for the second half of the year is already sold under contract."

Powell River Co. recently expressed its faith in the future by ordering a 9th paper machine which will produce 90,000 tons a year and that, along with speed-up of other newsprint machines, will increase the mill's present capacity by about 25%.



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**you don't have  
to guess about  
dryer felts**

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So we can specify the best dryer felt for your needs

Don't guess at a dryer felt, then hope it's right. Be positive of your dryer felt the first time by obtaining an unbiased opinion from those who know the advantages of all three types of dryer felts.

Brandon manufactures all three, so we have no reason to specify any but the correct dryer felt for your plant.

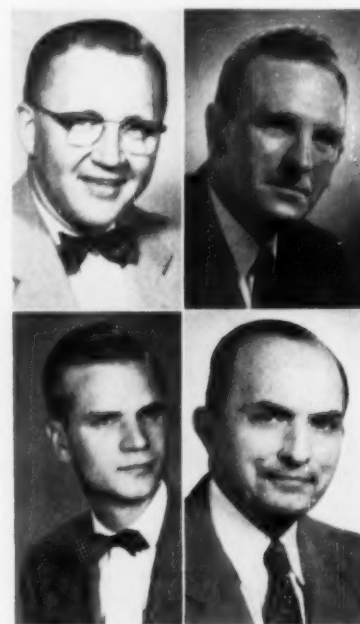
For immediate attention  
to your dryer felt problems, write:

Brandon Sales, Inc.  
Drawer 1, Branwood Station  
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Representatives:  
Northern and New England States  
Orton Corporation, Fitchburg, Mass.  
Midwestern States  
Frank Clawson, Kalamazoo, Mich.  
West Coast  
M. J. Maguire, Portland, Oregon  
Southern States  
R. S. (Bob) Davis, Greenville, S.C.

**BRANDON**

**DRYER  
FELTS**



**They Figure in New Industry  
Developments and News**

**DONALD G. ESTEBO** (top, left) the winner of the 1955 Essay Contest conducted nationally among mill employees by John W. Bolton & Sons, Inc. He is Plant Engineer of Wheelwright Div., The Mead Corp., Leominster, Mass. Born in St. Paul, Minn., in 1924, he graduated from U. of Minnesota in 1947, after 3 years in the Army. He went to work for Mead at Escanaba, Mich., and was Asst. Plant Engineer there.

**FRANK B. K. GREEN** (top, right), who has joined the Pulp and Paper Mill Division of Sprout, Waldron & Co., Inc., with his offices at 50 Church St., New York. He has had 20 years in this industry, in Anglo-Newfoundland mills and recently with Pandia Inc. as Chief of Design, later Chief Engineer.

**LEROY J. BAUER** (below, left) is new Sales Engineer, Bauer Bros. Co. for New England. He is unrelated to any of the principals of the company. He has 18 years experience in the industry in technical, supervisory and consultative capacities with pulp, paperboard and converting mills.

**ALBERT C. CRAMER** (below, right) has been named Assistant to the President, Albany Felt Co. He also retains title of Secretary, which he has held since 1949 and in his new post will concentrate on Albany's expansion program.

# Lockport Felt's New Southern Mill Nearing Completion



## Mississippi Site Chosen as Central Location to Serve Southern Paper Industry

Starkville, with a population of 7500, home of Mississippi State College, is ideally located in a state which in turn is strategically situated for the purposes of the Lockport Felt Company. Within easy reach for shipping and service are all of the Southern paper mills which now form a vital segment of the country's paper and board manufacturing facilities.

## Long-time Lockport Felt Executive to be General Manager of New Plant

A man who began his accumulation of felt-making knowledge 26 years ago in



R. J. Capen

the Weave Room of Lockport's Newfane Mill will be General Manager of the new Southern Plant. Raymond J. Capen's career included experience as Foreman in various departments. More recently he served as Assistant Superintendent and Superintendent.

Mr. Capen, who has been actively associated in the planning and erection of the new mill, will make his home in Starkville with his wife, two sons and daughter.

## New Plant to Contain Latest Felt-Making Equipment; Is Air-conditioned

The Lockport Felt Company's nearly-complete Starkville, Mississippi plant has been fitted with the latest and finest equipment in every department. It embodies ultra-modern materials handling facilities, the newest machinery for the weaving, fulling, drying and other operations which are involved in making Tenax Felts. Stainless steel has been widely used throughout. A duplicate of the new drying machine recently installed in the Newfane Mill, capable of drying felts as wide as 320 inches, is a part of the Starkville Plant's equipment.

Air conditioning has been used wherever possible, with the dual purpose of providing greater comfort for workers and making possible closest control of moisture and humidity in yarns and finished felts. The new plant was planned in minute detail to permit the ultimate in production efficiency.

## State of Mississippi, Citizens of Starkville, Facilitate Building of New Plant

Lockport Felt Company's decision to establish their Southern mill at Starkville was aided by the teamwork of Starkville city officials, Chamber of Commerce and citizens. In addition, Lockport Felt's choice of the Starkville site was influenced further by the availability of excellent transportation facilities, water and power supplies, and the assurance of a good force of high-calibre workers.

Production of Tenax Felts will become the City's leading industry.

## Production of Felts in New Starkville Miss. Plant to Begin in Fall 1955

Focal point of a ten-year, million-dollar-plus program of expansion and development, the Lockport Felt Company's Starkville, Mississippi, plant is nearing completion. Equipment is now being installed, and a training program for employees is under way. Production of Tenax Felts will begin in the latter part of the year.

Combined with Lockport's headquarters plant at Newfane, N.Y., in Western New York State, the new Southern Mill will nearly double the company's capacity for producing the highly-specialized woven felts used in the manufacture of paper and board products.



Raymond J. Lee

## Lockport's President Describes Starkville Mill as Culmination of Expansion Program

"We are especially proud of our achievement in creating this superb new facility," said Raymond J. Lee, president of the 64-year-old felt-making firm. "Added to our capacity at Newfane, the new Starkville Plant will greatly enhance our ability to serve the rapidly-growing Southern paper industry, making possible faster, more direct and more economical service."

"Nothing has been spared to make this new mill the finest of its kind. It represents the newest and best equipment and design. Matching our progress in completing the Mississippi plant has been our extensive program of improvements at our Newfane Mill. Together, these advancements give us unexcelled facilities for the manufacture of Tenax Felts."

## **Practical service training at Honeywell's school . . .**

***makes your instrument  
men more valuable***

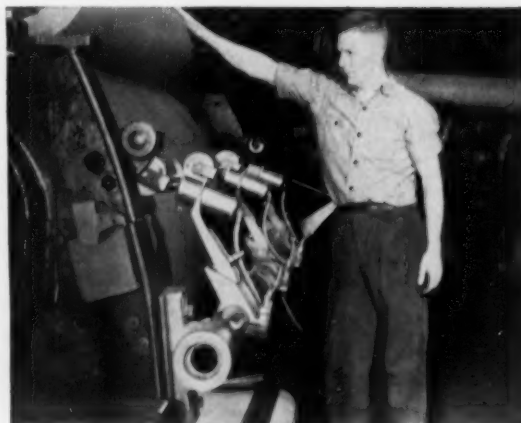
Your instrument maintenance men can get a real education in the most up-to-date methods for servicing instruments, at Honeywell's Training School. Any organization which uses Honeywell instruments can send maintenance personnel to this school. Tuition costs you nothing, for this school is maintained as a "plus-value" service to Honeywell customers.

Thousands of technicians have either started or augmented their instrument knowledge here. A variety of courses is available, to fit men for the particular kind of maintenance problems they may encounter in their specific jobs. The comprehensive course . . . one of the most complete and intensive offered anywhere . . . covers about thirteen weeks. Other courses cover five weeks and less, to offer condensed instruction of either a basic or "refresher" nature to men who can't be spared for extended periods.

There's nothing academic about this school. The emphasis is placed on practical knowledge. Theory through lectures and textbook study is liberally supplemented by laboratory sessions and actual bench work on all types of instruments and related equipment.

One caution: classes have to be limited to assure thorough attention to all students, so make reservations in advance. Your local Honeywell office will be glad to make arrangements. Call today . . . it's as near as your phone.

## **Control of sheet moisture content is now simpler, more**



*Moisture detector rolls are mounted across the width of the sheet on the last drying cylinder. Measurements are independent of machine hood humidity, speed and sheet basis weight.*





accurate than ever

## Improved Moist-O-Graph®

**T**HE latest advances in the electronic Moist-O-Graph® bring even greater refinements in sensitivity, accuracy and simplicity to the control of sheet moisture content. A new design, embodying the most modern engineering techniques, gives you these added features:

**Fewer moving parts.** Simplified construction makes the instrument circuit integral with the measuring circuit . . . eliminates many mechanical components. The new system is all-electronic. It's easier to maintain, and requires less spare parts stock.

**Improved control.** The new circuit holds moisture closer to the specified value. It incorporates an automatic means for reducing the steam to the dryers during breaks . . . without need for attention by the operator.

**Easy calibration.** Checks are made quickly by using a conveniently located switch.

With this improved instrumentation, paper makers have a completely automatic method for keeping sheet moisture within far narrower limits than could possibly be achieved by manual operation. Moist-O-Graph control ends overdrying and resulting brittleness . . . lets you run a wetter sheet without off-grade wet paper.

The complete control system consists of the Moist-O-Graph and its detector roll, plus a secondary pressure or temperature controller. Systems are engineered by Honeywell's paper industry specialists to the individual needs of each installation. For an analysis of your particular requirements, call your local Honeywell sales engineer . . . he's as near as your phone.

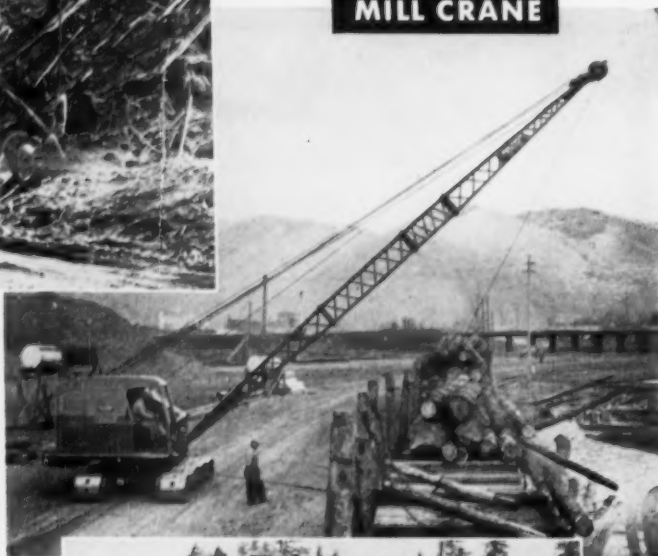
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● REFERENCE DATA: Write for Moist-O-Graph Bulletin.



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**Honeywell**  
BROWN INSTRUMENTS

*First in Controls*

**SHOVEL****MILL CRANE**

## Showing the Way From Camp to Mill

You can give your logging operations a real boost by assigning key jobs to Bucyrus-Erie excavators. Because they're easy to convert to various front ends, one basic machine equips you for a wide variety of excavating and lifting jobs—a shovel or dragline for building haul roads and other dirt-moving work; a crane for loading logs at the campsite, at transfer points, and at the mill; or a clamshell for maintenance and cleanup jobs.

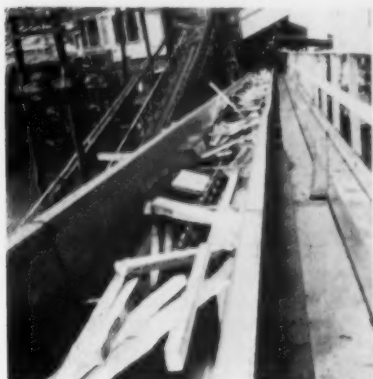
Changeovers from one front end to another are made easily right in the woods. The shovel crowd drum, for example, is removable with the boom as a unit, making front end conversion little more than merely switching booms. With changeovers made as quick and easy as this, you're always ready to tackle the immediate job with the front end attachment best suited to the work.

All the facts on these versatile, convertible excavators are available from your nearby Bucyrus-Erie distributor. Call him or see him now for detailed information on these three favorite models of logging companies—the  $\frac{3}{4}$ -yd. 22-B, the  $1\frac{1}{2}$ -yd. 38-B, and the 2-yd. 51-B. Also ask about the 22-B Transit Crane—carrier-mounted to give you rubber-tired mobility.

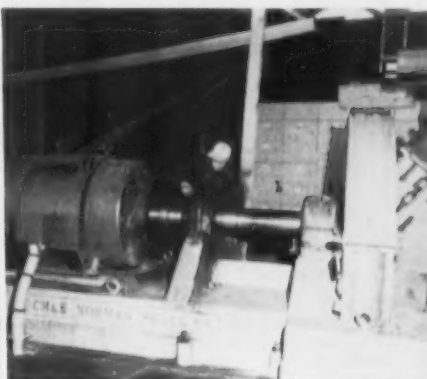
113E55

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**THIS IS LUMBER** "by-product wood," carried by Electric Steel Foundry main conveyor to Pope & Talbot chipping plant.



**RESIDUE WOOD** at Pope & Talbot mills is converted into chips in this 66-in. Norman helical-knife type chipper, powered by a 250 hp Louis Allis motor.



**CHIPS ENTER** 3-story high Summer chip feeder ahead of Summer vibrating screen, which directs accepted chips to Rader Pneumatic star feeder.

## How "Longest" Chip Blow Operation Works

Almost 100% of non-merchantable wood at Columbia River sawmills is used for pulp, conveyed nearly one mile

• A unique barking-chipping operation has added new dimensions to the utilization of by-products wood, which has developed into big business of the lumber-veneer industry of Oregon and Washington since World War II. PULP & PAPER recently observed the startup of this operation at Pope & Talbot's sawmills at St. Helens, Ore.

This project is unusual from several standpoints. It extends throughout the plant's two sawmills to collect almost 100% of all solid process wood except that ending up as merchantable lumber. The resultant chips are air conveyed by a Rader Pneumatic high pressure system directly to Crown Zellerbachs St. Helens Pulp & Paper kraft mill division, nearly a mile away. According to H. J. Olsen, manager of P&T's St. Helens operations, the project constitutes "the longest delivery of chips in the country" through a pneumatic conveyor.

By investing about half a million dollars the company upped the utility of by-product wood from fuel grades to pulp chips. Besides improving market values, this usage of chips obtained from sawmill and veneer production decreases the amount of timber that would have to be harvested especially for pulp, makes for

higher market value and is expected to improve the mills log procurement program.

William N. Hammersmith, Jr., P&T construction engineer, and Frank H. Swift, a CZ retired affiliate

### 60-in. Barker Is New Type

Nicholson (Seattle-made) ring barker is first of new type with vertical and horizontal rings positioning. To admit logs too large for debarking, ring moves clear of slipway.



### 40-in. Barker For 2nd Sawmill

A Nicholson 40 in. ring barker processes logs for Pope & Talbot two head-rig gang mill.



## PULPWOOD SECTION

now doing consulting engineering, jointly designed the St. Helens barker-chipper project. W. J. Burgen, master mechanic, supervised construction.

**USES NICHOLSON BARKER**—A 60-in. Nicholson ring barker, first of the new horizontal and vertical positioning type, processes logs going to the plant's 180M bd. ft. per day band sawmill and a 40-in. Nicholson removes bark from all logs entering the two-headrig gang sawmill of 150M capacity. The recently developed double-positioning ring barker not only allows the bark-removing heads to follow unusual contours of the log but also permits the processing assembly to move sideways, away from log slip, to admit logs too large for debarking.

Each sawmill has its own collecting-conveying system which delivers clean by-product wood from all portions of the two mills to the central chipping plant via Esco prime conveyors. Both of these discharge directly into a special-built Jeffrey chain conveyor terminating at feed spout of a 66-in. 16-knife Norman type helical-knife chipper, (in the East made by Carthage Machine Co.), which makes straight cuts as it draws the wood in "screw fashion," minimizing friction against face of the disc.

The resultant chips are chain and belt transported to top of the 3-story chipping building to a Summer feeder serving a 7½ by 18 ft. Summer vibrating screen. Accepted chips from screen feed directly into a Rader Pneumatic star feeder which injects them into the pipe conveyor line leading directly to St. Helens Pulp.

Two 22- by 36-in. Sutorbilt air pumps, each powered by a 250 hp General Electric motor, provide the Rader system with air at 6 psi to "float" the chips throughout the 4700-ft. length of 18-in. pipe. Besides the long horizontal transport, chips are elevated 120 ft. to discharge into a cyclone mounted at top of the pulp mill chip silos.

The paper company buys chips on "weight unit" basis. A Merrick Weightometer, operating in conjunction with the belt receiving chips from the cyclone, automatically weighs and cumulatively registers actual weight of chips received. By periodic sampling references the weight of green wood is converted to units of 2400 lbs. bone dry weight—the purchase unit.

Interlocking controls throughout the pressurized system prevent plugging.



### Chips Really Fly Here

Chips from three different sources are carried into mill on underground conveyor belt. At left, special cars from Crossett lumber mill; center, boxcar from outside shipper; right, motor trailer from Reynolds & Draper Lumber Co., El Dorado, Ark. All chips eventually wind up in pit beneath company cars. They are dumped from sawmill cars, sucked in from others. Between freight car and truck at right are several unused lengths of big suction pipe, there for use when the line has to be extended.

## Underground Belt Speeds Chip Unloading

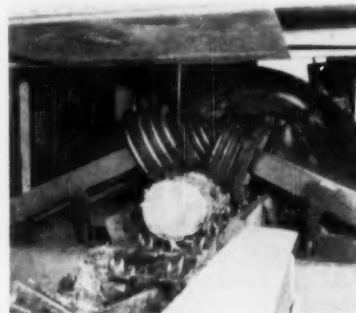
Crossett Mill conveyor network permits quick movement of chips simultaneously from three different sources

- A unique underground chip conveyor combined with a network of flexible and sectioned blowers is being used in the Crossett, Ark., paper mill operation to boost the speed with which chips are unloaded.

The new high-speed unloading operation enables the mill to unload and process purchased wood chips while moving its own chips off trucks and boxcars at the same time. Screening of receipts is performed in the woodroom after dispatch to the silo.

Chips from Crossett's adjacent sawmill are unloaded from freight cars as they arrive at the mill. At the sawmill, they are fed through a 4-knife horizontal feed Carthage chipper driven by a General Electric 150 hp, 440 volt, FL 1175 speed Triclad induction motor through Gates Vulco rope. Chips are projected through a cyclone and fed into specially designed compartment cars furnished by Ashley, Drew and Northern, a subsidiary. A duo-feed spout services two adjacent compartments in the freight cars simultaneously and a cable winch respots the car and fills the remaining two sections.

**WHAT HAPPENS AT PULP MILL**—Upon arrival at the mill, the cars are spotted over an open chip pit about 14 ft. wide at the top and 7 ft. at the bottom. It is 10 ft. deep and 25 ft. long, with inclined sides covered by welded steel plates. The bottom has four parallel Link-Belt type H com-



### How Wood Is Barked

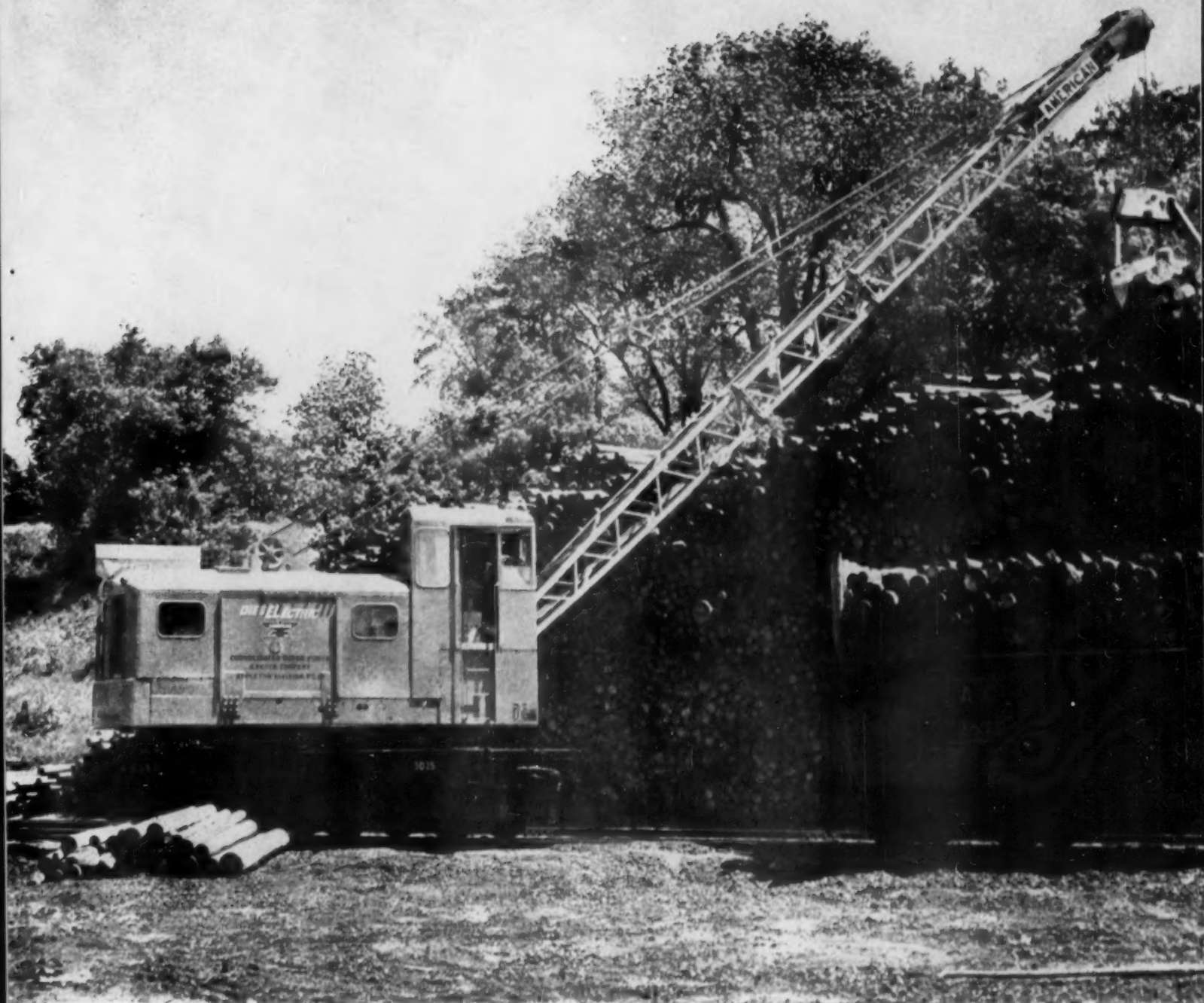
In Crossett Lumber Mills, where chips are made for Crossett Paper Mills, this Nicholson (Seattle-built) ring type barker is used.



### Then Chips Are Made

Barked trimmings are fed through this 4-knife horizontal feed Carthage chipper at Crossett sawmill. General Electric 150 hp Triclad induction motor drives chipper through Gates Vulco Rope.





## Handling Pulpwood and Lumber With Diesel Efficiency **WRITES OFF COST IN A FEW SHORT YEARS!!**

Industry's most-efficient crane, an American DiesElectric Locomotive Crane, can write off its full cost in a few years, according to operating records. Equipped with a grapple, above, a 40-ton American DiesElectric speedily unloads a railroad car and stockpiles pulpwood. The elevated cab set to the side of a boom lets the operator see deep into the car and gives him full vision for high piling of bulky loads. Fast, smooth swings made possible by American's tandem-hand swing clutches mean more cycles per hour.

A controlled-tension dual tagline enables the operator to position the grapple swiftly and gives him full control for neat, accurate stockpiling. With electric power to the trucks and direct-diesel power to the deck, American Cranes provide smooth, flexible operation at low cost. Fuel costs of slightly over a dollar a day are reported from many jobs. Get the full facts on how American DiesElectric Locomotive Cranes can put diesel efficiency to work for you. Write American Hoist & Derrick Co., St. Paul 1, Minnesota.

## PULPWOOD SECTION



### Clean Sweep of Cars Is Made by Cable Drag

Company cars are swept clean by this steel drag attached to steel cables. M. COCKRELL, woodroom foreman, shows how cables pull the drag through cars in this "carpet sweeper" type operation to get all chips from car.



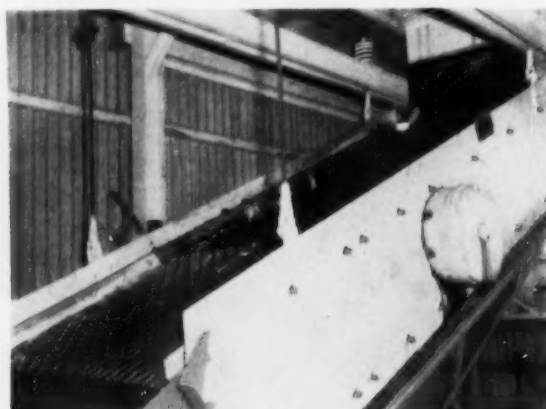
### Suction Makes Long Trip to Pit Conveyor

Suction blowers which carry chips from motor trailer like the one above and also from outside source boxcars are in sections so they can be easily moved from one transport to another. Pit is some 40 ft. away from here.



### Going Up!

Steep angle conveyor carries chips to top of woodroom after they pass under two rail spurs and a driveway. At top, chips are fed to Link-Belt screen.



### Where Chips Are Given the Once Over

Fed onto this Link-Belt screen, chips are carefully selected and then carried directly to silo on conveying belt. Discarded chips go straight to pulverizer.



### A Truckload of Chips Arrives

Heavy-duty Chevrolet truck with Nabors trailer is unloaded as it arrives from Reynolds & Draper Lumber Co., El Dorado, Ark., with its 36 M lb. order of chips. Suction pipes can be quickly swung into operation.



### On the Way to the Mill

Duo-feed spout fires chips into specially designed cars at the sawmill. A cable winch respots the car as chips reach top level of cars and special doors on car are pulled open on arrival so chips can dump into conveyor.

bination drag chains which move the chips into a belt conveyor as they drop in. The conveyor then passes beneath two rail spur tracks and a driveway and ascends to the woodroom roof at a high degree angle. At the top, travel direction is altered for feeding into a downspout leading to a Link-Belt screen. Accepted chips are fed to the conveyor leading from the mill chip supply screens to the silo. Rejects are sent to the pulverizer.

These Crossett special cars have a hinged flap door on each side of all compartments. Cables at the loading dock are hooked to the bottom edge of the compartment doors, lifting them so the chips can topple out. Another cable is attached to a steel drag which is pulled from side to side in the car, sweeping chips into the pit.



## High clearance and two-track power give OC-12 longer working season



A husky on any job, the OC-12 is available with rear-mounted winch, hydraulic bulldozer, trailbuilder and hydraulic 1¼-yard front loader.

In the 53 drawbar h.p. class, Oliver's new OC-12 crawler has been setting the pace to a longer, more profitable working season on all types of logging operations.

Its exclusive steering keeps power on both tracks at all times, and its extra high clearance lets you work under ground conditions that stop other machines. With the OC-12, you cling safely to sidehills...operate in deep mud...work over stumps and rocks. You'll be able to work year around in any condition with more profit!

Another feature that puts the OC-12 at the top for profit is its powerful, quick-starting engine. This husky power plant (in gas or diesel) has a torque feature that builds up power as the tractor slows under load. There's more push or pull in every gear...less shifting...bigger loads in less time.

You'll like the easy service features and rugged, long-life construction of this tractor, too. Why not see your Oliver Industrial Distributor for a demonstration? He can show you why you can stay in the woods longer, do more per day, per season with the new Oliver OC-12.

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### Where Wood Will Be Stored in Future

Crossett's new 40-ft. deep pond will hold 25,000 cords of wood, keep it from rotting. Crane will remove the pulpwood as needed, load it on trucks to be transported to regular unloading docks at the mill. Water is supplied by two deep well pumps using two old digesters as surge tanks.



## Wood Goes Under Water at Crossett

New pond and handling installation aims at chopping costs and reducing deterioration of wood in Arkansas paper firm

● The familiar mound of unbarked pulpwood which insures continuous pulp mill operation is on its way out at the Crossett Paper Mills, Crossett, Ark. In its place is a new log storage pond and handling installation designed to slash labor costs and minimize deterioration.

Construction of this system began some six years ago when Crossett started studies of pulpwood handling. Although the Crossett operation is the second of its kind to see service, infancy of the project, including testing of a scale model and the accompanying reports, began here, mill officials said.

Contracts for construction work confirmed estimates that capital investment will be readily amortized through savings in handling and transportation in the woodyard and labor costs in processing. Additional benefits include such items as fire insurance on the previously exposed wood, reduction of fungus and insect damage, probable stabilizing of steady pulpwood procurement, and possibly gains in the quality field. The project was formulated through collaboration of management, operating personnel, and engineering consultant services.

**THOSE WHO TOOK PART**—For the mill, active participants included: James C. Hair, mill manager; Wayne C. Smith, production manager; R. Q.

Conner, plant engineer; and H. S. Ferrell, resident engineer. The log pond model was designed, constructed and tested by Crossett personnel. Design development and final engineering design, specifications, and construction supervisory service were placed in the hands of Celli-Flynn, Inc., architectural and engineering firm of McKeesport, Pa.

Designed capacity of pond is 25,000 cords. Its bottom diameter is 265 ft., top diameter 435 ft., and its sloping sides are faced with concrete to prevent scouring by action of the wood. Pond depth is 42 ft., that of water, 40 ft. Water required was estimated at 28 million gals. The pond is about half above ground level. Ex-



**He Ramrodded Construction**

E. C. MEYERS studies plans of the large steel equipment in Crossett's new pond. He supervised construction, is Project Supt. of Eichleay Corp., who erected the 234-ft. long, 60 ft. high gantry crane in center of pond.

cavated material provided a levee of satisfactory thickness with easy outside slope already partly turfed.

Six to 8 in. of pit run gravel provides the first course above the clay bottom. Above that is a strata of 18 in. of washed gravel.

**HOW WOOD IS HANDLED**—Pulpwood, as at present, will be brought in by car or truck with unloading to conveyor by mobile cranes. A new barking drum increases capacity to three of these units. A 40-ft. turntable will discharge barked pulpwood to a 660-ft. long flume by which it will be carried to the log pond. A second flume returns wood from storage across the turntable to three chippers, one of which is new. The flume is 3-ft. 6-in. wide and 6-ft. deep. The flumes are supported at an average elevation of 30 ft. by 12 steel bents.

Water is supplied by two deep well pumps, using two old digesters as surge tanks. Water is sent into the upper flume and upon reaching the pond's center island enters a "U" box, returning at the lower level. Make-up of water lost here is provided from the pond by a pump on the island.

Plans for initial operation provided that only pulpwood in excess of current needs would be sent to the pond. When reserve supply attained suitable proportions, the plan was to close the



# PAPER MILLS *Everywhere* have proved the NORTHWEST CRAWLER IDEA!

Georgia  
National Container Corp.

● All over the United States, paper mills both large and small, have found that they can materially speed up and cut the cost of pulp handling with Northwest Crawler Cranes.

On this page are pictured just a few of the mills, many of them well known, in various parts of the country, now using Northwest crawler equipment. Many of these mills have added additional Northwests to their fleets after trying out the crawler idea in place of track type machines. Remember, a Northwest goes anywhere and handles any type of material. It makes possible the better utilization of storage areas. It works from the side or end of a car without an extra length of track and it will serve in any location around the mill.

Mobility and mechanical advantages mean lower costs and faster operation. If you are using track type equipment it will pay you to find out what a Northwest crawler can do for you. Ask for more details.

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## NORTHWEST

*The Crane That Goes Anywhere*

**10 to 50  
TONS**

## PULPWOOD SECTION

by-pass and draw wood for the chip-pers from the pond.

**RECOVERY OF WOOD**—Pulpwood is recovered by a Wellman gantry crane having one end mounted on a central pier or island and the other on a wheeled base moving on circular tracks atop the pond levee. The track has a diameter of 452½ ft. The bottom chord of the bridge truss is 60 ft. above the top of the levee. The bridge itself is 13 ft. wide, 18 ft. high, and 234 ft. 9-in. long. The gantry crane with its pulpwood grapple reaches all parts of the pond. It feeds wood to a 51-ft. diameter turntable.

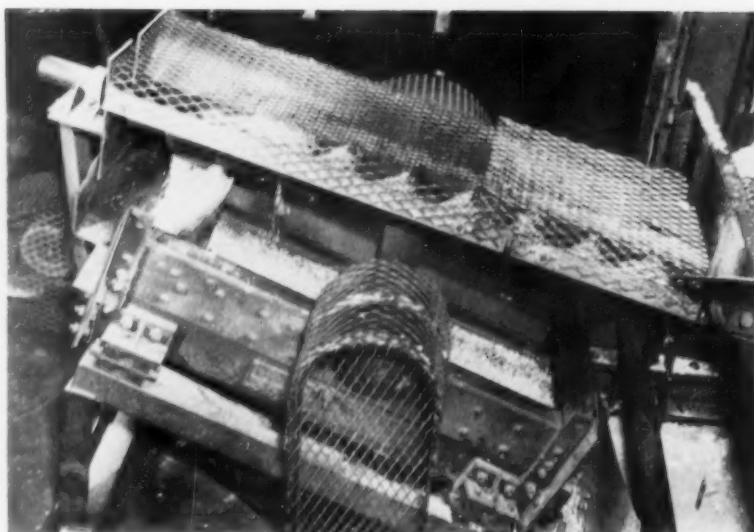


**MARIO CELLI**, whose firm, Celli-Flum, Inc., developed design, engineering specifications and supervised construction of Crossett pond.

Distribution is through a 51-ft. turntable and a log stacker. The stacker has a radius of 80 ft. The central pier has a diameter of 34 ft. 8-in.

Excavation work for the pond was performed by Carruth Construction Co. The concrete pond lining, center island and building work by Brice Building Co., Birmingham, Ala. Steel and equipment erection was done by Eichleay Corp., Pittsburgh, Penn., with E. C. Meyers as project superintendent.

Electric work contract was held by Shelby Electric Co., Memphis, Tenn. Steel for gantry, stacker, and island structure was furnished by Wellman Engineering Co., Cleveland, Ohio. Flumes and turntables were furnished by Birmingham Fabricating Co., Birmingham, Ala. Flume supporting bents, woodroom conveyors and woodroom structural steel were furnished by Schaller Steel Works, New Orleans, La.



**Closeup of Pin Chip Screen**

Closeup of 2 by 4 ft. single deck Aero-Vibe screen separating pin chips from sawdust using wire cloth with 4½ mesh openings.

## A Way to Increase Wood Use

Reclaiming of pin chips may pay for itself in year and save thousands of dollars in annual raw material cost

By J. E. FINK

Processing Machine Dept.,  
Allis-Chalmers Mfg. Co.

● Reclamation of pin chips is one way to increased utilization of raw wood in the pulp industry. The increasing difficulty in obtaining good wood coupled with the high price of wood and other raw material warrants serious thought to the problem.

Progress has already been made with better barking methods and more efficient chippers. However, another step can be taken after the wood has passed through barking and chipping. Don't throw away the pin chips—they are valuable and can be reclaimed to yield more woodpulp per cord.

A simple flow sheet for wood chip preparation is shown in Fig. 1. Note that a double deck chip screen is in-

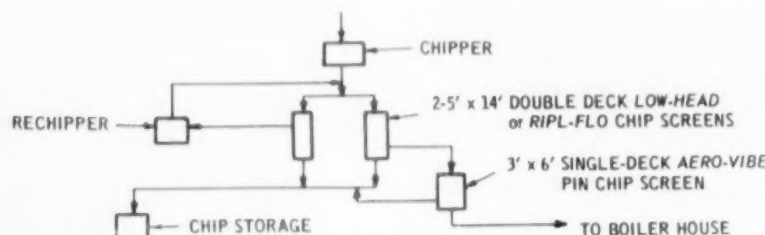
cluded, which is common practice. The top deck is used to remove oversize chips which are usually sent to a rechipper or chip crusher and recirculated back across the chip screen. Because of the rechipping circuit there is little or no waste from oversize chips.

The bottom deck is used to remove chipper dust from acceptable chips, which are discharged off the end and conveyed to digesters. This separation is usually accomplished with a screen surface having from ¾- to 1½-in. sq. openings.

Dust and pin chips pass through the bottom deck where they are collected and usually disposed of by burning or other means. Savings can be had by separating pin chips from dust, then using chips for pulp.

Since dirt is associated with the dust, removal of the dust is important in maintaining pulp quality. This is a difficult separation. It has to be done using small openings on a comparatively heavily loaded deck.

For example, the depth of material on the bottom deck of a 5- x 14-ft. horizontal screen handling 15 cords per hour would be approximately 2½ in. By comparison the depth at the discharge end of the top deck would be approximately ½ in. The top deck is equipped with a screen surface having openings of 1½ in. sq. or larger, while the bottom deck openings are no



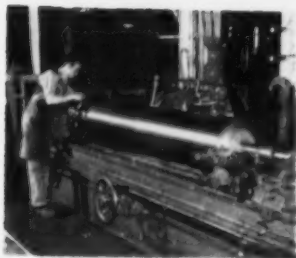
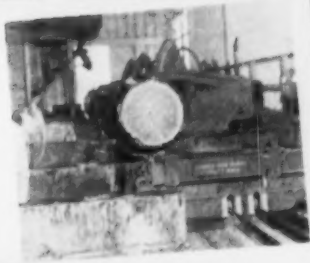
**FIG. 1: Typical Flow Sheet for Wood Chip Preparation**

Note rechipping circuit which results in little or no waste resulting from oversize chips.

# PULP MILLS . . . Attention

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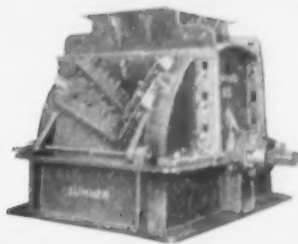
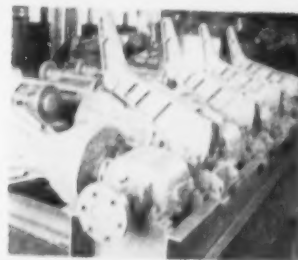
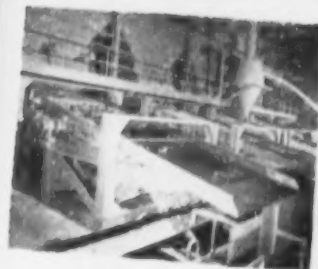
CHIPPERS

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MACHINERY

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## PULPWOOD SECTION

larger than  $\frac{1}{8}$  in. sq.

However, most of the material on the bottom deck is acceptable product, therefore less material must pass through the openings and a thicker bed is justified. The vibrating motion of the screen stratifies the bed and causes finer particles to go to the bottom where they easily pass through openings. The bed depth should be reduced if a separation of finer than  $\frac{3}{16}$  or  $\frac{1}{4}$  in. is to be made.

### HOW TO REDUCE BED DEPTH—

One method to reduce bed depth is to use a triple deck screen. The top deck would make the usual separation between acceptable chips and oversize chips. The middle deck would act as a relief deck to reduce depth of material on the bottom deck. With  $\frac{1}{8}$ -in. openings on this deck the bed depth on the bottom would be reduced to approximately 1½ to 1¾ in., depending on screen analysis of the chips. This decreased depth will allow more rapid stratification of material which means increased efficiency. It will make possible the use of a screen mesh finer than  $\frac{3}{16}$ - $\frac{1}{4}$  in., thereby increasing the yield of acceptable chips.

Another method of accomplishing the same result is to use the usual double deck chip screen followed by a single deck screen. The double deck unit would make the usual separations except that it is possible to use a larger opening on the bottom deck, increasing efficiency of the screen. The material passing through the bottom deck would be directed across the single deck screen. If usual dust removal obtained on a double deck screen is satisfactory as to pulp quality, then the single deck screen following would be used only for pin chip reclaiming.

The single deck screen can be smaller and less expensive because the amount of material handled would be small. For example, if the feed were all approximately minus  $\frac{1}{4}$  in., it would amount to only about 5% of total chip production.

When using a double deck screen followed by a single deck unit, better chip and dirt removal can be obtained with a larger size opening on the bottom deck of the double deck unit. This will also increase the quantity of material going to the single deck. Therefore the size of the single deck screen would have to be larger than if it were handling only dust through  $\frac{3}{16}$  to  $\frac{1}{4}$  in. openings, but still would not approach the size of double deck screen.

### ADVANTAGES OF COMBINATION USE—

The use of a double deck screen

followed by a single deck unit has several advantages:

The fine separation, where savings are realized in pin chip reclamation, is made on a screen that is operated at high speed and low amplitude. The separation between acceptable chips and slivers on the double deck screen with 1½ in. sq. holes requires a larger amplitude and slower speed. Thus, each screen can be operated at the best speed and amplitude to obtain maximum efficiency.

If an existing installation is to be modified to reclaim pin chips and a double deck screen is already in operation, the change can be made by simply adding a single deck screen. In new installations the first cost of a triple deck unit is less than that of a double deck screen plus a single deck screen.

Some thought has been given to storing the reclaimed pin chips until a sufficient quantity has accumulated to make a full digester. In this way better control over yield and quality can be had since all chips are of uniform size.

**CALCULATING SAVINGS**—To calculate savings, let us assume the complete installation of a separate single deck screen to reclaim pin chips would cost \$5,000. This includes about \$1,200 for the vibrating screen, motor, drive and motor control. The remaining \$3,800 would be used for steelwork, hoppers, and conveyors.

Assuming our mill uses 15 cords of wood per hour and pays \$15 per cord on an 8 hr. day woodroom operation, 250 days a year, the wood cost would be \$450,000 per year. Thus, \$5,000 divided by \$450,000 is 1.1% of the annual raw material cost. Therefore, if the screen will reclaim more than 1.1% of the wood used, the installation cost would be repaid in one year.

Operating expenses are small. All equipment is driven by small motors. A 3 ft. x 8 ft. screen requires a 2 hp motor. Since the material is not abrasive, wear on screen parts, hoppers, etc., would be small.

An important factor is that no additional work requiring high horsepower consuming machinery has to be done as chips are already produced in the chipper.

## Reveal Pulpwood Trends in Lake States

New statistics on the Lake States reveal how hardwoods (aspen especially) production for pulpwood is climbing, tending to bear out predictions that these states will become self-sufficient in wood supply for forest industries again, except for small amounts of sulfite from Canada.

For the first time, aspen production

passed 1,000,000 cords in 1954, more than twice what it was in 1949. On the strength of new hardwoods utilization, pulpwood production has climbed each year for the past 6 years in Wisconsin, is about 50% higher than it was in the 1940's. Expansion of pulp production in Michigan—considered a foolish dream hardly a

### Production of pulpwood in the Lake States by states

Production in thousand cords (rough wood basis)

Year	Lake States Region	Minnesota	Wisconsin	Michigan
1946	2,250	977	428	845
1947	2,037	852	493	692
1948	2,184	985	468	728
1949	1,552	606	427	519
1950	1,872	748	468	656
1951	2,577	1,077	565	935
1952	2,281	937	582	762
1953	2,091	813	554	724
1954	2,325	837	691	797

Source: Lake States Forest Experiment Station, U. S. Forest Service.

### Production of pulpwood in the Lake States by species

Production in thousands of cords, by species (rough wood basis)

Year	All species	Spruce	Balsam	Pine	Hemlock	Aspen	Misc.
1946	2,250	417	257	493	314	713	56
1947	2,037	390	311	509	199	575	53
1948	2,184	436	400	493	182	625	48
1949	1,552	320	319	273	108	486	46
1950	1,872	315	318	346	131	694	68
1951	2,577	420	348	545	220	935	109
1952	2,281	452	391	347	191	820	80
1953	2,091	322	248	356	122	939	104
1954	2,325	386	311	370	125	1,006	127

Source: Lake States Forest Experiment Station, U. S. Forest Service.



**40-TON LORAIN WITH SLING  
UNLOADS TRUCKS TO  
STOCKPILE**

*This crawler-mounted Lorain Crane unloads trucks to stockpile. Note the big load — and the high stacking that saves yard space.*



## East Texas Pulp & Paper Co. Mechanizes wood handling with **3 LORAINS**

This new Evadale, Texas plant handles their pulpwood fast, economically by modern Lorain methods. The 3 Lorains pictured here show 3 ways Lorains save time and money. Incoming trucks are unloaded to stockpile with a Lorain Crane and sling. From stockpile, mill flumes are fed with another Lorain Crane and grapple. Rack cars get cleared in record time with another Lorain — the "Rake" — especially designed for rack car unloading.

The Lorain line makes it possible to handle pulpwood economically anywhere along the line — in the woods, at the collection yard, at the mill . . . and to handle pulpwood in any condition — jackstrawed, piled, racked or bundled . . . wet, dry or frozen. Slings, grabs, grapples, tongs and rakes can be adapted to any of these conditions. A wide assortment of crawler or rubber-tire mountings is available for any terrain or travel condition.

In addition to the standard Lorain line, Thew-Lorain has engineered special machines for pulpwood handling to fit specific needs, such as: crawler-mounted and gantry-mounted rakes, elevated cab designs for maximum visibility, and special gooseneck booms. Bring your pulpwood handling problems to your Thew-Lorain Distributor. He can tell you about standard or "special" Lorains so you, too, can mechanize your pulpwood handling the Lorain Crane way!



**LORAIN-50 RAKE UNLOADS CARS . . .** This specialized pulpwood "unloader" reaches to the far side of the rack car to drop the "Rake" behind the stacked pulpwood. Then, with a pull toward the machine, it easily "rakes" the logs off the car into the mill flume. Cars are unloaded in minutes.



**LORAIN WITH PULPWOOD GRAB LOADS MILL FLUME . . .** East Texas Pulp & Paper Co. put another Lorain to work on the blockpile, handling jackstrawed pulpwood, using a grab to load the mill flume.

THE THEW SHOVEL CO., LORAIN, OHIO

# THEW LORAIN

## PULPWOOD SECTION

decade ago—probably will reveal continued increases in its pulpwood output in the next year or two.

In all, the Lake States produced 2,325,000 cords in 1954, up 234,000 from 1953, according to the Lake States Forest Experiment Station, U.S. Forest Service, St. Paul, Minn.

This was an increase of 11% but was 10% less than the all-time high recorded in 1951. Of the regional total, Minnesota produced about 36%, Michigan 34%, and Wisconsin 30%, according to A. G. Horn, U.S.F.S. forest economist at St. Paul.

Wisconsin's 1954 pulpwood harvest of 691,000 cords was the largest annual cut of pulpwood ever recorded in the state. Over the past 8 years Wisconsin's share of the regional total has increased from about 19% in 1946 to 30% in 1954.

Aspen cut in 1954 for the 3 states totaled 1,053,426 cords. The birch harvested for pulp totaled 39,838 cords, virtually all in Wisconsin. Tamarack for pulp totaled 12,016 cords. Besides this, total cut of the dense hardwood species, including oak, again increased; 81,000 cords were cut in 1954 (48,572 in Wis., 26,496 in Mich., 5,727 in Minn.) com-

pared to 73,000 in 1953. In Minnesota this is balsam poplar (Balm of Gilead).

Pulpwood shipments from Montana, Colorado and Wyoming (virtually all to Wisconsin mills) continued on the downward trend that started in 1952. Western shipments dropped from 104,000 cords in 1953 to 67,089 cords in 1954. Imports from Canada were about the same as those of the previous year, totaling 705,140 cords—496,274 to Wisconsin; 110,160 to Minnesota and 98,706 to Michigan.

Stumpage value alone of the 10.7 billion bd. ft. of commercial timber in this season's spray area has been conservatively estimated at \$33 million. Figuring the volume of commercial timber ultimately threatened and attaching price value to this on basis of semi-manufactured products the value jumps from \$11 million to \$858 million in Idaho alone.

Ownership of the treated lands is divided between federal (chiefly U. S. Forest Service), which accounts for a bulk of the areas, private, and some state and or county. Costs were shared.

### Soderhamn Announces New Cambio Barker

Tested over a year, Soderhamn Machine Mfg. Co.'s new Cambio Barker is said to debark both soft- and hardwoods from 2 to 14 in. diameter at speeds up to 150 fpm., effectively removing the cambium. A self-contained unit, the Cambio utilizes new principle in debarking which is simple and maintenance-free. No air or hydraulics are employed in its construction, yet the unit is completely automatic, said the Talladega, Ala., firm.

The industry is invited to send both soft- and hardwoods to be debarked or the Soderhamn Company will endeavor to obtain desired species for demonstrations.

Talladega is 50 miles southeast of Birmingham, and arrangements for transportation to and from Birmingham can be made by the company upon request.

### Successful Aerial Spray Program in West

An aerial spray program aimed at controlling the spruce budworm was carried out this summer on nearly 2 million acres of Pacific Northwest's forests infested with this defoliator. Of the 1.8 million acre total, almost exactly half of it was in Idaho, 620,000 acres in Oregon and 290,000 in Montana.

The unusually wet, cold season in the Northwest this year delayed the treating projects considerably, but the initial surveys made following spray-

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GASOLINE POWERED

**WRIGHT POWER SAW**

"Blade Works Like A Hand Saw"

Successor to the Chain Saw

### THE PRACTICAL POWER SAW FOR INCREASED PULPWOOD PRODUCTION

**ONLY \$239<sup>50</sup>**

F.O.B. Factory, Sheboygan, Wis. Complete with 18 in. blade

- **SAFE!** Can't whip branches back at you, won't grab, kick
- **EFFORTLESS!** Vibration-free, light-weight, cuts operator fatigue
- **GUARDED BLADE!** Top of blade completely shielded
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- **EASY MAINTENANCE!** Blades change in 30 sec., sharpen in 5 min.
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ing indicate "generally satisfactory" results. Although precise effectiveness is yet to be determined, it's expected this may be slightly below the 98% mortality average established through six similar annual (1949-54) spruce budworm control projects in Oregon and Washington totaling 3.2 million acres.

The insecticide solution, consisting of one pound of DDT in an oil emulsion carrier, was applied at rate of one gal. (1 lb. DDT) per acre. Total per-acre cost for the various areas range from around \$1.00 to about \$1.10.

#### PERSONAL NEWS FROM PULPWOOD WORLD

**LOUIS J. FREEDMAN**, vice president, Penobscot Development Corp., and president of American Pulpwood Assn., is convalescing from a recent illness which struck him in Washington, D.C. during hearings before the Senate labor subcommittee. According to latest reports he is improving.

**BILL DeROSIER**, APA logging engineer, has resigned to become vice president in charge of operations, Quebec Wood Industries, Ltd., Quebec, P.Q.

**HARRY JEFFERSON**, APA safety and training officer, is on a partial retirement basis. His services are available for periods in late 1955 and companies wishing to contact him are directed to address him at 1035 Russell St., Warren, Pa. His next period with APA will be the first half of 1956.

**CLARENCE S. (PAT) HERR**, vice president, Brown Co., was recently complimented by U.S. Secret Service men for his knowledge of the woodlands on his company's properties during President Eisenhower's visit to Berlin, N.H. He guided Service men about prior to the President's arrival. He was also with the presidential party. Aiding Mr. Herr was **BILL JOHNSON**, chief scaler for Brown Co.

**TOB BROGAN**, formerly in sales promotion with U. S. Gypsum Co., is new Chicago district mgr. for American Forest Products Industries, Inc., according to **CHARLES A. GILLET**, managing director of the industry organization. Mr. Brogan is a graduate of Notre Dame. AFPI has 13 district offices, with Mr. Gillet and headquarters staff in Washington, D.C.

**ELBERT JAMES LUND**, assistant to woods manager for Ontario & Minn. Pulp & Paper Co., Fort Frances, Ont., was born in Chicago, where his first teacher and principal were the same as his mother's. He moved to Ontario as a boy, joined O & M at Kenora in 1933.

## look to **ESCO** for **ALLOY** **AVAILABILITY**

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**INCONEL • MONEL**  
**PRECIPITATION HARDENING**  
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your order can be started. Big orders can be handled efficiently and economically too. A complete metallurgical laboratory enables ESCO to take advantage of the latest technological advances. Result: Outstanding quality control on every order.

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In Canada, Vancouver,  
British Columbia and  
Toronto, Ontario

## PULP & PAPER's "HOW TO DO IT" Feature



The Old Method . . .



And the New Way

### An Improved Method For Shipping Newsprint

A departure from the conventional manner of shipping sheet newsprint has been inaugurated by Powell River Company, Powell River, British Columbia.

The new method, which uses a sturdy, stiff-cornered carton, saves much of the labor and materials employed

in "bundling" newsprint, and at the same time provides a neater, tougher package impervious to damage by pallet board and rough handling.

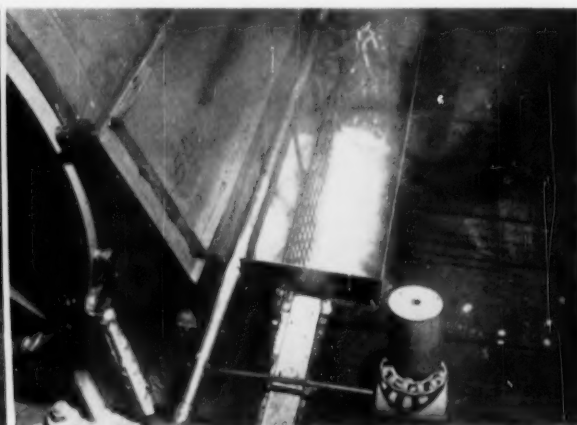
A special carton taping machine squeezes the carton with one-ton pressure, while standard gummed tape is applied.

Several other mills lately have taken similar steps to improve or make sturdier packages for paper.



With Cover On

"SLIVER DETECTOR," behind Groundwood Screen, with cover on it, fabricated by Northwest Copper Works, Portland, Ore.



With Cover Off

This shows mercury switch running through box at left. Counterbalance is unit extending at right angle to switch in foreground.

### How 'Hawkshaws' Of Screen Room Help

"Sliver detectors," made of 1-in. wire mesh pivot-suspended in stock flow behind each groundwood round screen, automatically indicate malfunctions by light and horn signals at Publishers' Paper Co., Oregon City, Ore.

When slivers come through with the stock, they hang up on the mesh. The resultant force of stock flowing

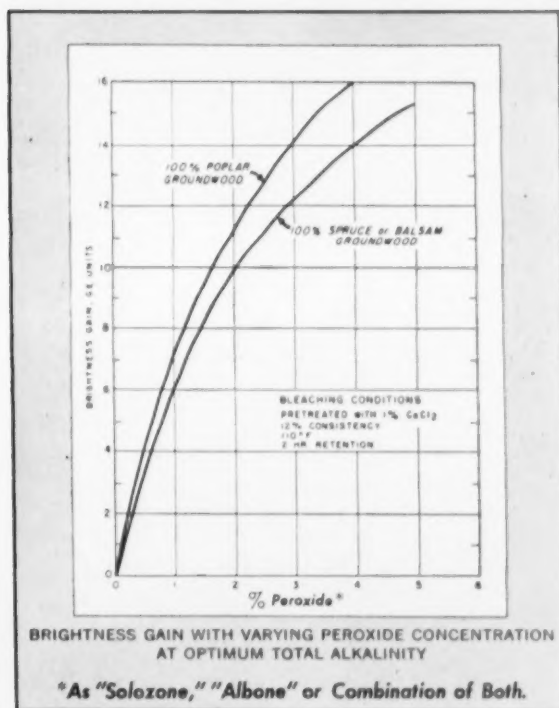
against the "clogged" screen swings it from its normal near-vertical position. This deflection actuates a mercury switch, mounted on end of the pivot rod, closing circuit to signal light and horn alarm.

The foreman, thus notified, immediately inspects the screen to determine cause of the indicated trouble. Publishers' Paper uses 12 of these sliver detectors—one for each primary, secondary and tertiary groundwood round screen.



# NOW... Increase groundwood brightness 10-14 G.E. units

with the Du Pont Peroxide Bleaching Process



**No other process gives you such high, stable brightness levels!**

Now you can bleach groundwood for use in high-brightness papers with the Du Pont Peroxide Process. Higher concentrations of peroxides make high, heat-stable brightness levels possible—increases of 10-14 G.E. units where needed! And adjustments in bleaching formulas to improve brightness involve no changes in existing equipment.

While increasing pulp brightness, this economical Du Pont process preserves the desirable characteristics of groundwood: high opacity, good formation and excellent printing properties.

You'll save with exceptionally high fiber yields. And peroxide bleaching minimizes brightness reversion on the paper machine.

Send for our new bulletin P62-1054 on *High-Brightness Bleaching of Groundwood*. It tells you how you can increase your groundwood brightness for more profitable papers. Mail coupon for your copy.

Send for these Du Pont booklets on peroxide bleaching of groundwood and sulfate pulps. They contain detailed information on formulations, procedures and equipment for the process, along with chemical control tests for bleaching solutions. Mail coupon for your copies.

**Du Pont Peroxides are available** for prompt delivery from conveniently located manufacturing plants. You can be assured of a dependable supply of top-quality peroxides for all your bleaching needs.



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Albone®..... Hydrogen Peroxide  
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- ☐ Bulletin P62-1054, "High-Brightness Bleaching of Groundwood"  
☐ Booklet, "Peroxide Bleaching of Groundwood"  
☐ Booklet, "Peroxide Bleaching of Sulfate Pulp"

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**Improved Design Features  
of B&W Recovery Unit assure . . .**

# MAXIMUM EFFICIENCY

***in Chemical and Heat Recovery***

● **COMPLETE INSTRUMENTATION**

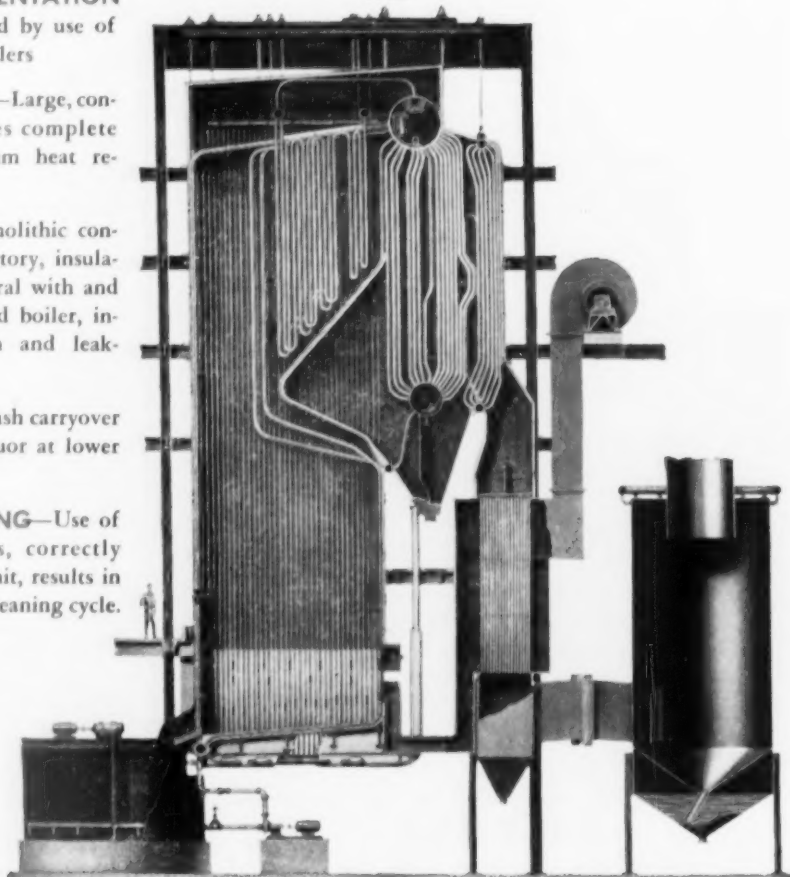
—Combustion is stabilized by use of automatic air-flow controllers

● **LOW FURNACE DUTY**—Large, conservative furnace assures complete combustion and maximum heat recovery

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● **CLEAN BOILER**—Low ash carryover is the result of firing liquor at lower per cent solids

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Typical modern B&W Two-Drum Recovery Unit  
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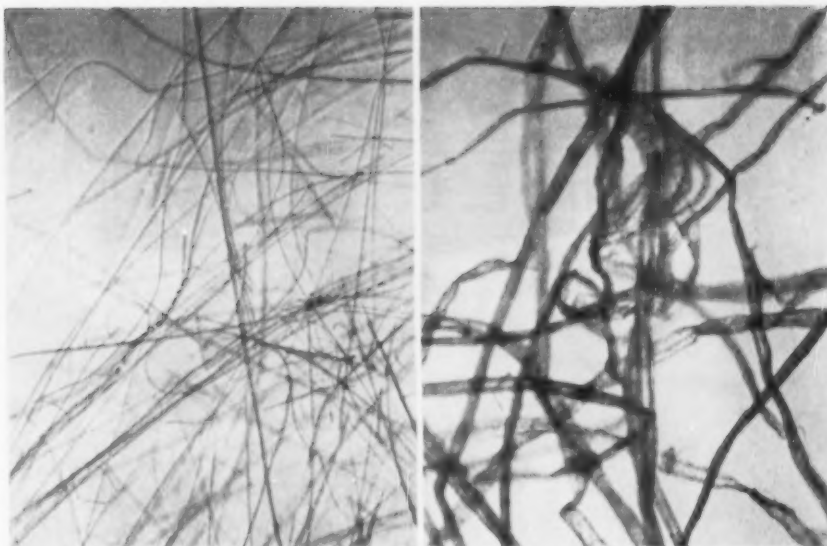
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### Paper Glass Fibers Are Much More Delicate

Picture at left shows fibers of blown glass paper, magnified 50 times. At right, kraft pine pulp fibers, also blown up 50 times. Major difference is that wood owes strength to entanglement and adhesion while glass is strengthened by fiber friction. As diameters of glass fiber decrease, paper increases in strength, air resistance, uniformity and filter efficiency.



## What's Future for Glass Paper?

Some day it is expected to compete with cellulose papers for many applications; hospital and home uses are seen.

By Dr. REAVES C. SPROULL  
Director, Herty Foundation,  
Savannah, Ga.

● Cellulosic fibers have been the principal material for papermaking. With the development of synthetic fibers, inorganic and organic, the potential for a wider variety of paper products is expanding. One of these fibers, glass, offers the opportunity to develop a family of paper products, manufactured by the same general methods as used for making paper of cellulosic fibers, but with properties much unlike the cellulose fiber products, and tailored to specialized applications.

Paper may be broadly defined as fibrous material laid down from liquid suspension and dried in sheet form without major orientation of the individual fibers. When coverage is the main consideration, continuous forming of a sheet on a moving wire, as is done in making paper, is a most economical process.

**MANUFACTURE OF GLASS PAPER**—For papermaking, two types of glass fiber are generally useful—blown and drawn fiber. Blown fibers are available in 0.05-3 microns nominal diameters, whereas the continu-

ously drawn fibers are coarser 5-9 microns. Because of their difference in size and shape, they are not interchangeable in most papermaking applications.

All glass paper apparently owes its strength to friction between fibers rather than to the entanglement and adhesion that occurs in wood fiber papers. The contact area between fibers and the number of contact points is of major importance. As the diameters of the glass fibers decrease, the paper increases in strength, air resistance, uniformity and filter efficiency.

Differences in cellulose and glass fibers result from their chemistry and mode of formation. The natural cellulose fiber is formed in a cold process by a building up of a polymer of glucose units, whereas the glass is formed by rapid cooling of a polymer of silicon dioxide.

The steps in making glass paper and equipment used are much the same as for making cellulose paper but because of the individual characteristics of glass the handling in each step must be modified. This is especially true with respect to flow, beating, refining, storage in process and pH of the conveying liquid. When a proper balance between these factors is obtained the glass fibers

are readily converted to paper. (O'Leary, Tappi, 37, 446, 1954 describes conditions to make a good glass paper.)

Because of the high density of the fibers, they readily accumulate in flow pockets and traps. Too severe mechanical treatment shatters the fibers and shortens them to fragments which have little papermaking value. When stored in process, particularly without regard for pH, they tend to settle and develop agglomerates which interfere with good paper formation. Best sheet formation is obtained when the fibers are rapidly dispersed in water at a consistency of 0.5% and a pH less than 3.5, then carried through the process into a sheet of paper without allowing the stock to stop in storage. Protrusions in the system and sharp bends are to be avoided, as the glass hangs on these so as to form lumps in the sheets.

**HOW MAJOR PROBLEM WAS OVERCOME**—One of the major problems in making glass paper was the production of a sheet with enough strength to make it easy to handle. Unlike papers made from natural cellulose fibers, strength of all-glass sheets cannot be markedly developed by beating. This strength has to be obtained by a judicious selection of



*You get all three in*

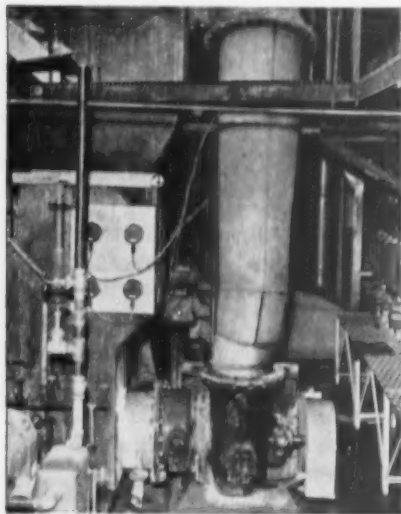
## **WARREN**

### **STOCK CIRCULATING PUMPS**

*and here is proof . . .*

The Warren 18 x 24 Horizontal Propeller Circulator Pump, illustrated, was side mounted on a special bracket to provide vertical discharge rather than top horizontal.

At present it handles a capacity of 6000 GPM, at 12 foot head, 30 BHP at the pump shaft, 765 RPM pump speed, and to handle 1% stock. A 40 HP, 1150 RPM motor and V-Belt drive was chosen to allow for a future capacity of 7000 GPM, 12 foot head, 40 BHP at the pump shaft, 830 RPM pump speed. This change was to be effected by changing sheaves.



Photo, courtesy Escanaba Paper Company  
Subsidiary of The Mead Corporation, Escanaba, Michigan

However, mill modifications will require a new capacity of 9000 GPM, 15 foot head, 57 BHP at the pump shaft. For this a 60 HP motor and a new V-Belt drive for 1000 RPM pump speed will be provided.

*Whether it is a question of Stock Circulation, mixing, or any other Pulp or Paper Mill application, it will pay you to take advantage of Warren Pumps and Warren Engineering.*

PP-34



# **WARREN PUMPS**

**WARREN STEAM PUMP COMPANY, INC.**

Warren, Massachusetts

fiber diameter and glass composition, by mixing binders with the glass, and by selection of optimum manufacturing conditions. U.S. 2,504,744 discloses that strength can be developed by drying the sheet on the wire on which it is formed. More recently O'Leary (Pulp and Paper Mag. of Can. 55, 124, no. 12, 1954; Tappi 37, 446, 1954) has reported that increased strength can be developed by control of pH and judicious refining at 85° F. in order to develop a "gelatinous layer" on the surface of the fibers. Thus he has obtained tensile strength of 300 p.s.i. U.S. 2,658,848 discloses a method of combining glass webs in the presence of an acidic wetting liquid so as to produce fiber bonding.

The widest range of properties and strength development is obtained by the addition of binders. These must be selected with consideration given the end use for the composite sheet as well as cost and mode of application. The same resins which are applied with cellulose fibers may be incorporated in the glass sheets as well as admixtures of glass and cellulose fibers. In addition an all-inorganic paper may be manufactured where materials, such as aluminum hydroxide, ferric hydroxide, sodium silicate and silicones are employed as bonding agents.

The glass fibers do not hydrate or "wet" in the same sense that cellulose fibers do, and thus papers containing glass dry much faster than sheets made of cellulose. Care must be observed in calendering the all-glass sheet as it will be damaged severely by excessive pressures. Removal of glass beads by a Vortrap or similar device is advisable if the paper is to be relatively free of pin holes.

#### **PROPERTIES OF GLASS PAPER—**

By varying the fiber composition the properties can be any combination from those of all-glass to all-cellulose sheets. This discussion is restricted to sheets which are principally glass. Dependent on binders and other additaments these may include the following properties: rapid drying, decay resistance, non-flammability, controlled resistance to passage of liquids and gases, sterilizability, solvent resistance, thermal stability, dimensional stability, velvety feel and chemical inertness. All of these properties may be attributed to the glass component of the sheet. Through the use of the many controlled variables, such as glass composition, mode or fiber production, fiber length and character of additaments a "synthetic" or tailor-made sheet can be produced.

Contrarily, the handling of glass paper is much less predictable than comparable cellulose sheets. Tear,



tensile, abrasion resistance, durability and like properties are poor as compared with cellulose paper. These properties are being gradually improved as new knowledge is gained.

The high resistance of the glass paper to heat, moisture, mildew, certain chemicals and other deterioration forces is its most desirable characteristic.

**USES FOR GLASS PAPER**—The use of glass paper, per se, is currently limited by its low physical strength which will not necessarily be true in the future. The most promising applications for the paper are in filtration where particle retention from aerosols and liquid suspensions are involved. Suitability of filter media depends on retentiveness for particles at a fluid velocity under a specific pressure drop. It is a compromise between filtration efficiency and fluid or gaseous throughput. By selection of glass fiber with proper dimensions and blending, filtration efficiency can be quantitatively controlled. Generally high rate of flow can be attained even when fine particles are to be removed.

Glass fiber filter papers have unique advantages in filtering mixtures which are corrosive or relative with other filter media. By this means radio-active dust and minute organisms may be removed from air. This promises a great future in maintaining a fresh and healthy atmosphere within hospitals, homes and other places of human habitation.

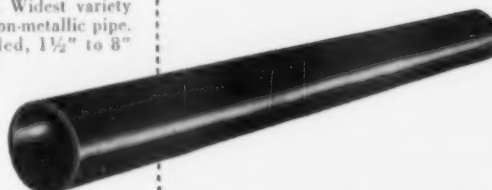
For electrolytic applications, such as dialysis membranes and battery separators, glass fiber papers show promise because of chemical stability, porosity to flow of cell liquids and efficient particle retention.

The greatest number of applications for glass paper lies in combining it with resins. By proper selection of resin, to match a particular property of the glass, the desirable specific property of the glass paper can be retained. Resin penetrates the glass sheet very rapidly, in fact in some cases the problem is to maintain the resin content low enough.

**SEARCH FOR DIELECTRIC STRENGTH**—One of the earlier incentives for producing glass paper was to find an electrical insulation which will operate at high temperatures. Much was done at General Electric Co., the Naval Research Laboratory, John A. Manning Co. and elsewhere to take advantage of the low power factor of some grades of glass fiber. Some of the data were presented by the Naval Research Laboratory (Callinan, etc. "The Electrical

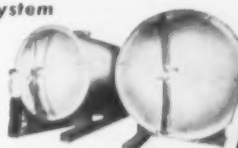
#### OLDEST PLASTIC PIPE STILL "TOPS"

ACE hard rubber . . . now more than a century old . . . long the finest corrosion-resistant pipe available. Widest variety of fittings of any rigid non-metallic pipe. Sizes  $\frac{1}{4}$ " to 8" threaded,  $1\frac{1}{2}$ " to 8" flanged. *Bulletin CE-51.*

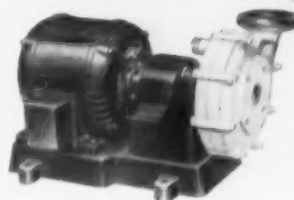


#### LIFE-TIME ACID STORAGE TANKS

Rubber-lined by ACE  
2-layer system



Economical, universal protection against all alkalis, metallic salts, practically all inorganic acids, hydrochloric acid any strength, sulphuric to 50%, nitric to 20%, phosphoric to 75%. Good to 160 deg. F. . . . sometimes higher. Soft rubber interlayer aids shock resistance.



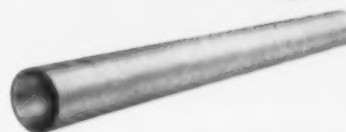
#### ACE "WAM" . . . THE FINEST Non-metallic Acid Pump

On job after job, this 80-gpm. centrifugal pump has earned highest praise. Hard rubber casing and impeller, Hastelloy C shaft. Handles nearly all corrosives. Mechanically simple, trouble-free. *Bulletin CE-55.* Larger ACE pumps available.

**ACE** chemical  
equipment

"more resistant to more corrosives"

Complete line of rubber and  
plastic processing equipment . . .  
eight basic materials for pipe  
and fittings, valves, pumps,  
tanks, molded parts, utensils, etc.



#### TOUGH ACE-ITE PLASTIC PIPE

General-purpose moderately priced rubber-plastic pipe handles most common chemicals to 170 deg. F. . . . except few strong acids and organic solvents. Tough, odorless, tasteless. Rigid pipe  $\frac{1}{2}$ " to 6". *Bulletin 80.*

## ACE rubber and plastic products

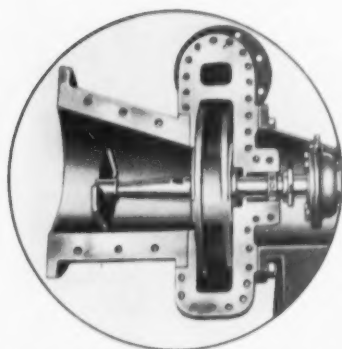
**AMERICAN HARD RUBBER COMPANY**  
93 WORTH STREET • NEW YORK 13, N. Y.

## No Pulsation; No Dehydration of High Consistency Stock



### **MORRIS** Type ST-P STOCK PUMP

Handles clean stock of extremely high consistency — up to 8% — without pulsating flow, dehydration or clogging.



View showing suction booster and impeller

Morris' patented suction booster mechanically agitates and propels the stock into the impeller eye. The eccentric configuration of the suction nozzle combined with the axial flow action of the suction booster prevents extraction of water and clogging of suction pipe with dehydrated fibre.

Another point. The resultant constant feed assures flow throughout the system, free from pulsations. Steady action helps keep down shaft deflection — holds packing wear to a minimum.

Write for Bulletin 176, giving sizes, capacities and engineering data.

**MORRIS MACHINE WORKS**  
Baldwinsville, N. Y.  
Sales Offices in Principal Cities

**MORRIS** Centrifugal Pumps

Properties of Glass-Fiber Paper," Washington, D.C. May 1951). Alkyd and oleoresinous bonded glass papers are rigid and proposed as slot-armour, whereas fluorocarbon bonded glass papers are soft and pliable enough to be useful as wire covering.

On the other hand the alumina-impregnated glass papers possess thermal stability for use as air-cooled coil spacers. Low electrical losses are observed with styrene or vinyl carbazole resins and high arc resistance with modified glyptals.

The dielectric strength of the glass impregnated sheet is not equal to that of a cellulose sheet of the same thickness. This has limited the use of glass paper as electrical insulation to low voltage applications where the thermal stability of the glass fiber is absolutely needed. When the property of low dielectric strength is improved to equal or excel the strength of cellulose paper many new applications for glass-resin impregnates as electrical insulation will unfold. This may be accomplished when the surface of the glass fibers are "perfectly mated" with the surface of the resin binder so as to distribute the electrical stresses evenly throughout the mass.

**COMBINED WITH RESINS**—Combinations with resins have produced items with other special properties. With phenolic resins, stiff, brittle structures are produced; with polyamide resins greater softness and toughness is obtained. When the epoxy resins are used a hard structure results. High adhesion of glass to resin is claimed for epichloro-hydrin-bisphenol A type epoxy resin (C. & E. News 32, 4759, Nov. 29, 1954). Moldable composites have been made of 60% glass and 40% resin.

Union with some of the modified glyptal produces resin structures with high arc resistance and a degree of transparency results. Polyvinyl acetate is an effective strengthener and may be applied in the beater or as a size in the head box.

Flexible sheets can be made by incorporation of elastomers, with or without phenolics. Some of these have good crease resistance. Ethyl cellulose provides a strong sheet which can be made smooth with heat and pressure.

Bonding with silicones has been employed in an effort to improve the heat resistance of the composite. Teflon yields a combination especially inert to heat and chemical reagents.

Many of these combinations have properties more characteristic of the resin than of the glass, e.g. the silicones produce hydrophobicity and elastomers produce flexibility. Development of resins with properties to match those of glass and compensate

IN PITTSBURGH...



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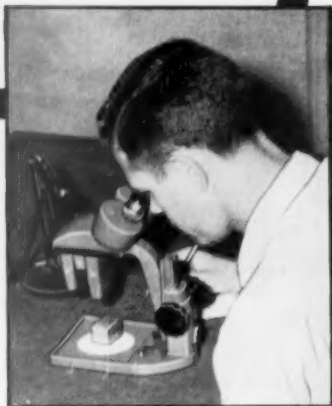


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**CENTRIFUGAL CASTINGS**

FERROUS AND NON-FERROUS

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for glass deficiencies would greatly enhance the use of glass paper.

**FUTURE FOR GLASS PAPER**—Silicon dioxide, the principal raw material for manufacturing glass occurs in great abundance. The relative cost of electrical energy for fusing the sand is gradually dropping. Thus the supply of glass suitable for conversion into fibrous form is almost unlimited and the long term price trend is down.

The supply of organic fibers is limited by land area and growing conditions. The relative costs of producing these is likely to gradually increase and as the earth's population increases the market requirements will expand.

Specifications for particular properties in fiber sheets will become more exacting and the peculiar properties of glass will be required to perform the necessary functions in aircraft, high temperature environment, electrical devices, corrosive atmospheres, high moisture conditions, and other conditions which would destroy cellulosic papers.

The development of binders which would have properties compatible with glass fibers and which could be applied cold in water suspension or at low temperatures would greatly increase the use of glass paper. This will be accomplished.

The chemistry of glass can be quantitatively controlled so as to produce fibers of special properties, such as the E fiber for electrical use. This will permit tailoring the chemical composition of the fiber to the specialized intended use.

All of these factors contribute to the prediction that the use of glass paper will have a healthy growth and that it will some day be competitive with cellulose paper for many applications.

### Dr. Sproull Had Much Experience with Glass Fiber

Because of his extensive work in the glass fiber field, PULP & PAPER requested Dr. Reavis C. Sproull to prepare this article on the preparation and possible future of glass papers.

A native of Taylorsville, Ga., the 42-year-old Mercer University graduate has been director of the Herty Foundation since 1953. He joined the foundation as technical director in 1951. At New York University he received a Ph.D. degree in chemistry.

Dr. Sproull then joined General Electric in Pittsfield, Mass., in 1941. Here he was group leader in development of cellulose and fiber insulation for electrical devices and was a member of several General Electric interworks committees and was chairman of a committee for overseas packaging. He rep-



**DR. REAVIS SPROULL**, author of PULP & PAPER article on glass paper and its uses.



resented the General Electric Co. on the paper committee of the American Society of Testing of Materials.

In 1946, he became head of the Wood and Paper Division of Southern Research Institute at Birmingham, Ala., and in 1949 was made an assistant director of that organization. His published articles were in fields of chemistry, pharmacology, pulp and paper. His interest in glass paper began while he was associated with G. E. where he and several associates developed a variety of glass paper and resin products which were evaluated for electrical uses. At Herty Laboratory, he carried out pilot plant projects on use of glass, and its behavior, in papermaking.

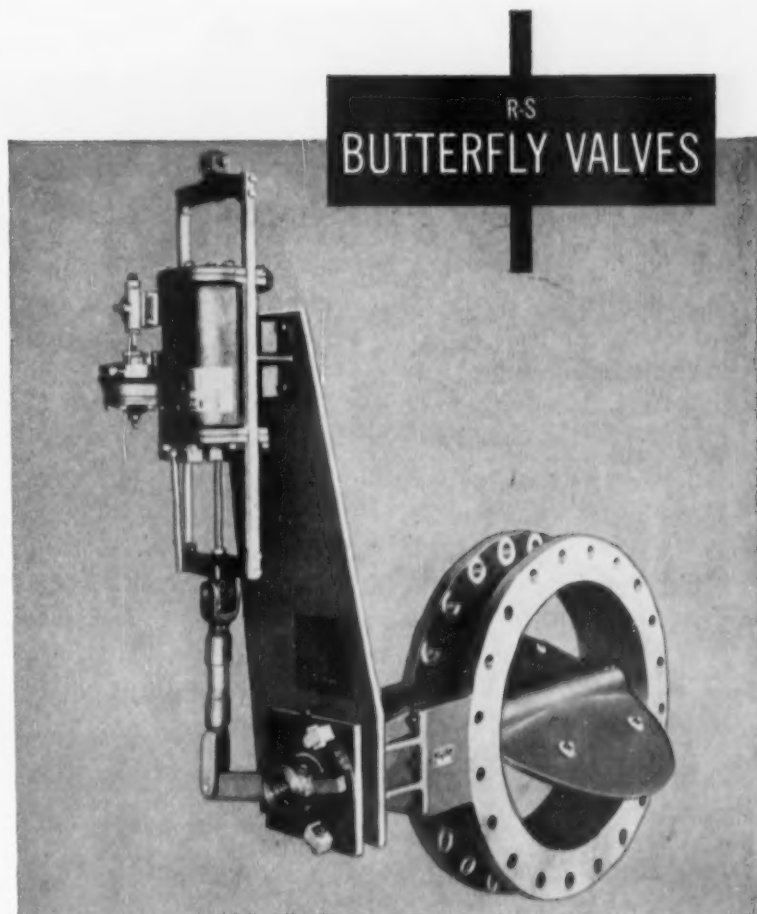
He resides in Savannah with his wife and two children.

#### 16 New Students Enroll at Institute

Fourteen new first year students and two "specials" are enrolled in the Institute of Paper Chemistry, this industry's graduate school in Appleton, Wis., and they start classes Sept. 12.

Two special students (enrolled from mills, ineligible for degrees, although they do the usual work for degrees) are: Patrick J. Sullivan, Hudson Falls, N. Y., and Robert C. Williams, Cincinnati, O.

Others are John Robbins Kimberly, Jr., Neenah, Wis., with b.a. from Williams College; Harry D. Williams, Westfield, Wis., b.s. in ch. eng. from U. of Wisconsin; Louis R. Busche, Milwaukee, b.s. in ch. e., Northwestern U.; James Baxter, Port Angeles, Wash., b.a. from St. Martin's; Roland W. Best, Little York, Ill., b.s., Monmouth; Wavell F. Cowan, Montreal, McGill, b.s. in engineering; Richard W. Detrick, Hamilton, O., b.s. in ch. e., Case Institute; Richard C. Erickson, Oak Park, Ill., Ohio Wesleyan, b.a.; Horace B. Faber, Jr., York, Pa., Yale, in science; Marvin L. Finston, Nutley, N. J., Colgate, b.a.; Bruce C. Gottwald, Richmond, Va., in science, Virginia Military Institute; James A. Harrocks, Maplewood, N. J., Bowdoin College, b.a.; Richard M. McKinley, Jackson, Ala., University of Alabama, b.s., in ch. e.; and John H. Schulz, New York City, Polytechnic Institute of Brooklyn, b.s. in ch. e.



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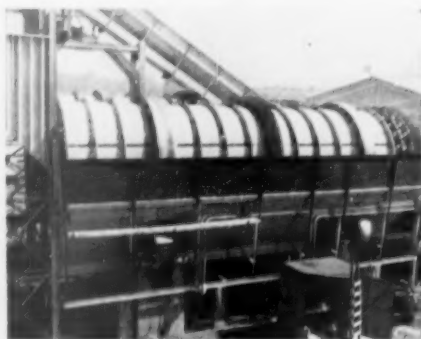
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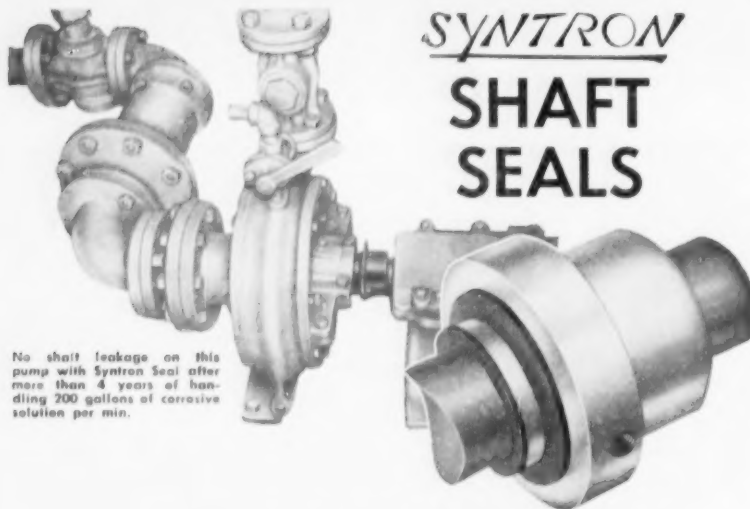


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### Personnel Changes at Bolton

(L. to r.) WALLACE L. BOLTON, former Prod. Mgr. of John W. Bolton & Sons, Inc., Emerson Div., who has been made Div. Mgr. of Emerson; ARTHUR F. SHERMAN, former Supervisor of Methods and Standards, promoted to Bolton Plant Mgr.; and CHARLES E. FISK, newcomer to Bolton, who has been named Chief Industrial Engr. Mr. Bolton is a grandson of company founder, John W. Bolton.

### More Oregon Mills?

Two applications for water rights on Tahkenitch Lake and other bodies of water along the Oregon Coast in Douglas and Lane counties, ostensibly are for new kraft mills. Applicants are Long-Bell Lumber Co. and Menasha Plywood Corp., subsidiary of Menasha Woodenware Corp., Menasha, Wis.

In reply to PULP & PAPER's inquiry about prospects of the company's entry into the pulp field, H. G. Kelsey, Long-Bell vice president, said this filing is a re-application made subsequent to expiration of a previous filing. He said Long-Bell is surveying pulp prospects but no decisions have been reached.

### H. K. Equipment Co. Now a Corporation

H. K. Equipment Co., Portland, Ore., manufacturing and distributing firm, has converted from a partnership organization to a corporation but retains the same name and principals. Harold Hilton is president and general manager, L. R. Hussa, vice president, and C. W. Kellogg, secretary-treasurer.

H. K. manufactures the Kelton "Wafer" stock valves, available throughout U. S. and Canada, is representative for Pennsalt protective coatings and Carlon plastic pipe and fittings, and recently inaugurated production of plastic tanks, hoods, piping and duct-work assemblies.

### Lusby Moves North

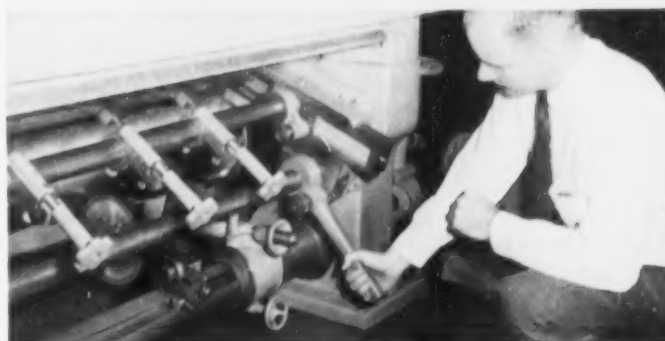
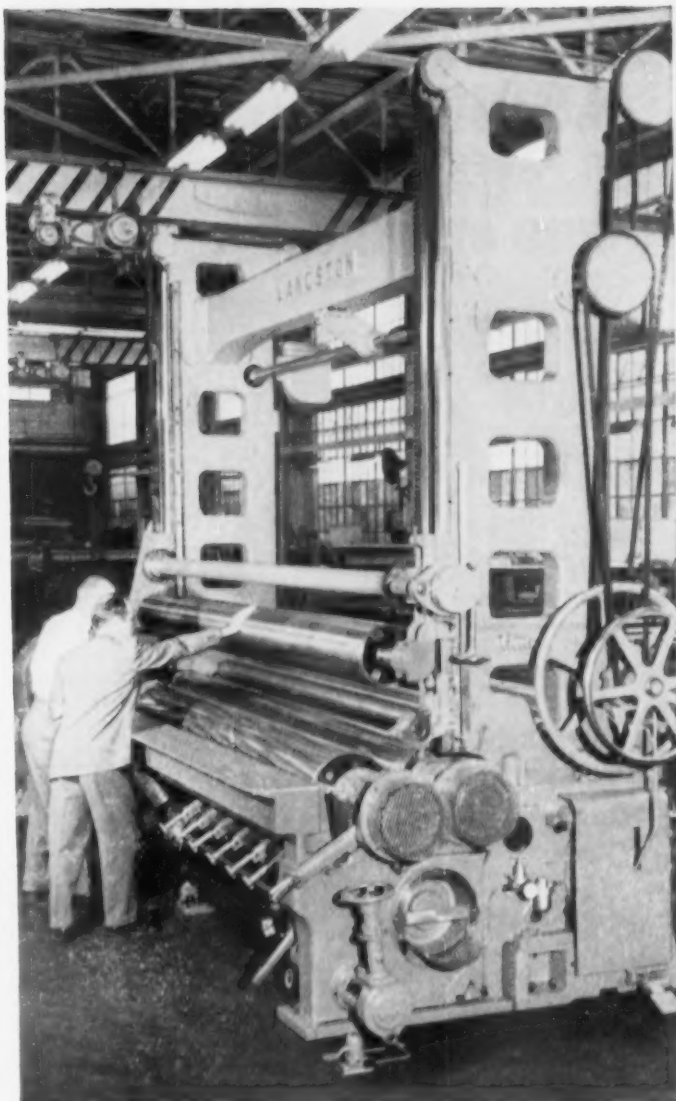
H. L. Lusby, former paper mill supt. at St. Regis Paper Co., Jacksonville, Fla., mill, has been made paper mill supt. at the East Millinocket Me., mill of the Great Northern Paper Co., according to Roy V. Weldon, executive vice president.

# Model DA Langston Slitter & Winder has 2-way control of roll density

The rider roll on this high-speed Langston Slitter & Winder does more than merely provide pressure. Extra tensioning effect can be added simply by adjusting a friction clutch between the rider roll and the overspeed drive. This adjustment is variable according to the needs of the particular paper being wound.

Tensioning effected by the overspeed of the rear main drum is adjustable by varying the pitch of the sheaves on the drive side of the machine. This adjustment provides simultaneous control over the speed of the drive to the rider roll. Tension can be further controlled within close limits by any of a variety of different braking systems on the unwind stand.

Langston Slitters & Winders feature the famous shear-cut slitters as standard equipment on all machines. Sturdy bedplate and side frames assure stability at all speeds. Optional features include hydraulic roll ejector, roll drop, and hydraulic roll actuator. Sizes to 196 inches wide and speeds to meet your requirements. Write for information, SAMUEL M. LANGSTON CO., CAMDEN 4, N.J.



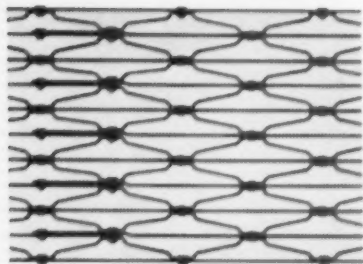
Reverse winding is optional and available on all Langston Slitters & Winders, Models B, C and D. Photo shows man raising lever to set spreader bar on Model DA machine for reverse winding.

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**EQUIPMENT AND SUPPLY NEWS**

HAMMEL-DAHL CO.'s diaphragm control valves with Flash-Flo Plugs are said to eliminate the destructive vibration, trim deterioration and high noise level which often occur in valves on flashing liquid service. Threaded holes are geometrically spaced around the plug skirt to create turbulence and distribute energy release over a large surface area. Potential energy is thus converted directly to heat by internal turbulence of the liquid and less kinetic energy is available for damage to piping. Ask for Bulletin 101-B, Hammel-Dahl Co., 175 Post Road, Providence 5, R.I.

SPENCER CHEMICAL CO. has named PAUL L. WELLER, Manager of market research, to post of assistant to JOE E. CULPEPPER, vice president. He joined Spencer in 1953 as market research head and was previously with Wyandotte Chemicals.

ALBANY FELT CO., Albany, N.Y. has an 84-page booklet, "Suggestions for Improved Felt Performance," in handy pocket size giving the latest felt application information. It is said to be ideally suited for use in mill training programs as well as serve as an excellent on the job reference manual. Write to Albany Felt

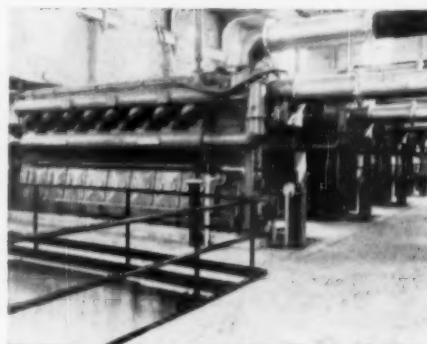
Co., 1373 Broadway, Albany 1, N.Y.

COCHRANE CORP.'s sodium zeolite softeners are designed to eliminate hardness of water for use as boiler feedwater. Using ion exchange principle with common salt brine regeneration, Cochrane zeolite softeners can readily supply water of zero hardness. Cochrane Hydromatic Sodium Zeolite Softeners are described in Bulletin 4520-B. Smaller Cochrane Zeo-Flo Softeners in capacities up to 160 gpm are covered in publication 4504-A. Write Cochrane Corp., Philadelphia 32, Pa. Deaeration by atomization is described in principle and requirements in Cochrane's Publication 4635.

PORTLAND COPPER & TANK WORKS, INC. has begun a new plant expansion program with clearing of ground for a new building furnishing 20,000 sq. ft. for stainless steel fabrication, according to Harmon Hugo, general manager.

SIGNODE STEEL STRAPPING CO. has just released a folder on Signode Power Strapping Machines with photos of four standard models and specifications. Write Signode at 2600 North Western Ave., Chicago 47, Ill.

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**RICE BARTON CORP.** describes its new DynoMiser in a new bulletin. Two commercial models, "B" for batch operation and "X" for continuous extraction with high consistency discharge, are available. They are said to be able to slush pulp at 45 kwh per ton using less than 6,000 gals. of water. Slushing is performed at 3% to 4% consistency in the vat with continuous extraction. Stock is picked up by the screw elevator inside the perforated water extraction tube. Slush pulp comes out of the spout at 20% consistency. Pilot and lab models are available. Write to Rice Barton Research Corp., Worcester 1, Mass. West Coast representative—Ray Smythe, 501 Park Bldg., Portland, Ore., Canadian—S. W. Hooper & Co., Ltd., 1462 Bishop St., Montreal, P.Q.

**BABCOCK & WILCOX's** Tubular Products Div. has issued a data folder on seamless stainless tubing and pipe which describes attributes of stainless steel and how it can be fabricated. Also included are tables of analyses, mechanical properties, creep strength, physical properties, oxidation resistance of nine of the most popular stainless tubing steels. Ask for folder TB-355 from division's general sales offices, Beaver Falls, Pa.

**SIERRA TALC & CLAY CO.**, offers 2 technical reports especially prepared for the paper and fiberboard industries, 31-T pigmentation studies on butadiene, styrene copolymer (latex) emulsion coatings and 32-T pigmentation of butadiene-styrene (latex) emulsion with miston HGO-55—rutile and trinity superfine-rutile mixtures. Both are available from Sierra Talc & Clay Co., P.O. Box 390, 1608 Huntington Drive, South Pasadena, Calif.

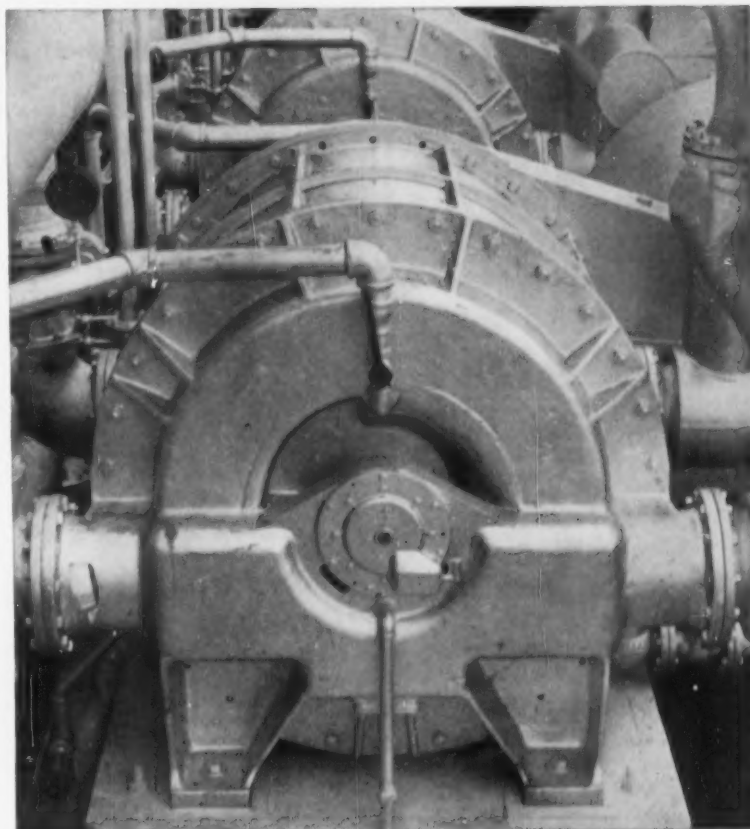
**CRANE PACKING CO.** has broken ground for two new buildings to house extensive research and laboratory operations, as well as office and cafeteria. With completion of these buildings, Crane will have a new 17-acre home site near Morton Grove, Ill., for its mechanical seals and packings, lapping machines and pipe joint and thread compounds.

#### Advice to Young Executives

Q. If I reach the water-cooler just before my boss does, may I drink first? Or should I step aside and press the control lever for him? Or, if he reaches the cooler first, should I volunteer to hold the lever for him? Should I accept if he offers to hold it for me? And what do you suggest in cases where the boss is a woman?

A. After reading your problem, I went and bought a flask. Why don't you?—Institute of Paper Chemistry's *Insti-Tooter*.

## High machine speeds? High temperature headbox stock? You need **NASH** Vacuum Pumps!



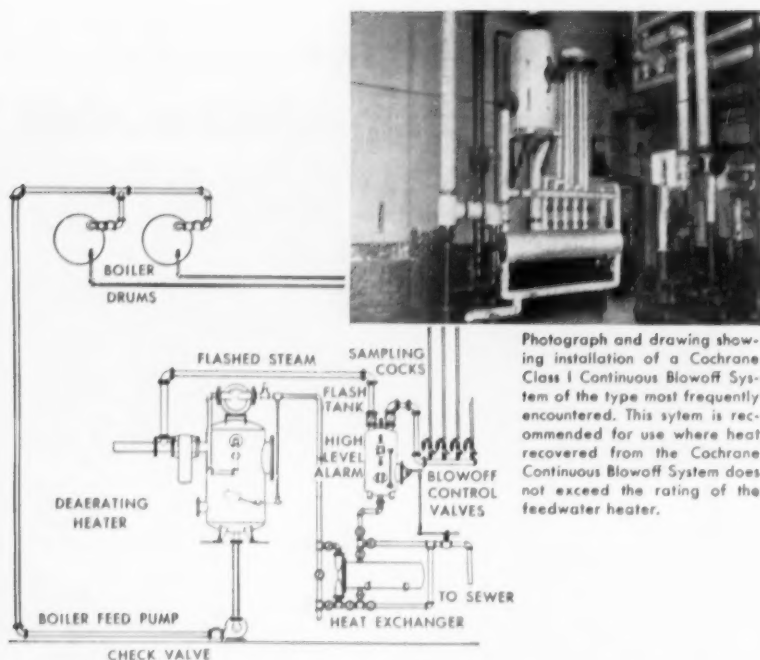
Air from the suction rolls on paper machines carries with it substantial quantities of moisture. This considerably reduces the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump, because of the unique principle of operation, the bulk of this vapor is effectively condensed inside the pump. The total capacity of a Nash is therefore increased.

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### **NASH ENGINEERING COMPANY**

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Photograph and drawing showing installation of a Cochrane Class I Continuous Blowoff System of the type most frequently encountered. This system is recommended for use where heat recovered from the Cochrane Continuous Blowoff System does not exceed the rating of the feedwater heater.

## Here are some typical savings with a **Cochrane** **CONTINUOUS BLOWOFF SYSTEM**

- A Utility: \$15,400.00 annually
- A Sugar Refinery: 3,500.00 annually
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(Names of companies on request)

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### Head Eastwood-Nealley

Election of JOHN G. MacKECHNIE (left) as President, and NELSON W. WEBB (right) as Executive Vice President of Eastwood-Nealley Corp., a leading manufacturer of Fourdrinier wires at Belleville, N. J., since 1877, has been announced by Calvin H. Nealley, Chairman of the Board.

Secretary since 1943, Vice Pres. and Treas. since 1948, Mr. MacKechnie came to the company from the law firm of Lum, Tamblin and Fairlie, which he joined upon graduating from Dartmouth and Harvard Law School.

Mr. Webb is a native of Tennessee, graduated from Vanderbilt in 1923, when he joined Eastwood-Nealley. He became Supt. in 1925, Gen. Supt. in 1929 and Vice Pres. in 1947.

### Riegel Makes First All-Nylon Paper

Riegel Paper Corp. has made the first commercial run of synthetic paper produced wholly from nylon fiber. It is said to be almost impossible to tear by hand. It is said to be highly resistant to chemical attack, absorbs little moisture and resists action of molds, bacteria and light.


Suggested use based on its high strength would be heavy-duty bags. Resistance to chemical attack would be useful in filtration of corrosive liquids and packaging chemicals. Stability of the paper to moisture indicates possible use in map, tracing papers and for permanent records.

### Glatfelter Orders Pumps

P. H. Glatfelter Co., Spring Grove, Pa., has ordered 8 vacuum pumps for its new Rice Barton paper machine from Read Standard Corp., York, Pa. Auxiliary equipment will include Peerless separators on the inlet side of the pumps and Burgess-Manning snubbers on the pump discharge.

### Speed Up News Machine

Crown Z is to invest "well over a million dollars" between now and end of 1956 to increase capacity of No. 3 newsprint machine and provide additional groundwood at Port Angeles, Wash. Machine improvements, including a vacuum transfer (similar to one operating on No. 2 machine), are expected to increase its capacity about 27 tons per day.



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**Complete pulp mill. 150 tons kraft pulp with approx. 35,000 acres timber land. Also 116" trim, 110 ton, five cylinder board machine.**

**Mill is located in northern Michigan, is complete, and immediate possession can be had.**

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**Clothing Representative.  
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Excellent opportunity for graduate chemist or chemical engineer with experience in clay coating of enamel and machine coated printing papers. Must be capable of organizing plant scale development work. Location: Mid-West. Box 225, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

**PAPER LINE MANUFACTURER's** representative in the Philippines desires connection with paper mill export representatives strong in low-priced letterpress as well as kraft, offset, bond, book and coated papers. Essential exporters have top mill connections and capable of handling big tonnage orders. Write to Box 239, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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One experimental-size digester. Vertical Type. Fifty (50) cu. ft. Length nine (9) feet and six (6) inches. Stainless steel lined. Manufactured for working pressure of 200 p.s.i. Approximate weight, 4000 lbs. Condition unused. Sealed bids will be received until 10:00 A.M., January 5, 1956. Inspection of the digester and bid forms may be obtained by contacting the Department Head, Forest Products Department, Texas Forest Service, P.O. Box 460, Lufkin, Texas.

**WANTED**

Young man experienced in Latin American paper export business. Must be capable Spanish correspondent. Good opportunity for advancement. Send complete details your background to Box 234, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

**ENGINEERS—the following  
positions are open**

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New, modern, 300-ton bleached kraft paper mill. Engineers under 35, with 2 or more years' experience first preference. Salary open. Address correspondence to: Personnel Director, East Texas Pulp & Paper Co., P.O. Box 816, Silsbee, Texas.

**Project Engineer or Chemist**

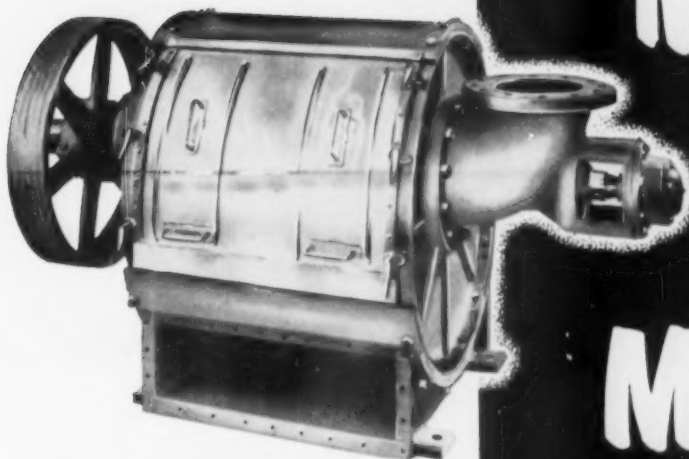
Fine opportunity for young men under 30 with college degree in Chemistry or related fields, to work in Midwest Paper Mill manufacturing Jute Liner and carton board. Must be adaptable for varied laboratory and technical project work, plus close contact with production operation. Send resume of experience to Box 240, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

**EXCELLENT OPPORTUNITY** for young man familiar with pulp and paper processing to sell and service DeZurik Valves, Regulators and other mill equipment. DeZurik lines established and used throughout the industry. Position offers good starting salary plus profit-sharing. Please state experience, earnings record, age and other details in confidential application. DEZURIK SHOWER CO., Sartell, Minn.

**COATING ENGINEER**

Expanding Pacific-Northwest wood products company requires research engineer, age 23 to 29. Graduate chemistry, chemical engineering or wood technology. Education and/or experience in coatings or paint technology. Experience in emulsion or water based systems particularly desirable. Responsible for coatings development program. Send resume. All replies held confidential. Box 237, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.





The "Junior" Screen... smallest of three units producing from 35 to 150 tons per day, respectively.

# Money Saving Midgets

## Cowan Centrifugal Pulp Screens by **APPLETON MACHINE COMPANY**

Added efficiency, greater economy are the watchwords for *Appleton Machine Company's* junior versions of the standard Mark "A" Cowan Centrifugal Pulp Screen, acknowledged as outstanding in its field.

The Mark "E" Screen is a half-sized model of the standard Mark "A", conservatively rated at a capacity of 2400 U.S.G.P.M. accepted stock. 50 h.p. is required to operate the Mark "E", but its drive is designed to accommodate a 60 h.p. motor, wherever needed. The Mark "E" is particularly advantageous in smaller mills, or as a supplementary screening unit. Also, installing two Mark "E" Screens—instead of a single larger machine—provides a definite safety factor in case of breakdown.

The "Junior" Screen is a quarter-sized model of the big Mark "A", with a rated capacity of 1400 U.S.G.P.M. accepted stock. 25 h.p. operates the "Junior" Screen, but it will handle motors up to 40 h.p. Greatest applications are as secondary screening units, and

as a primary screen for mills producing a variety of pulp grades which require a system made up of small, separate units.

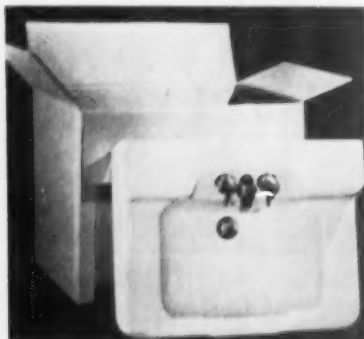
Performance of these two Cowan Screens is comparable in every way to that of the standard Mark "A" Screen . . . the same high consistency screening . . . low percent rejects . . . good fiber separation . . . low shower dilution pressure . . . top hydraulic efficiency. Typically sound *Appleton Machine* construction plus a protective coating tailored to fit your needs *complete* your assurance of long-time satisfaction.



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WINDERS • FINISHING ROLLS • REWINDERS

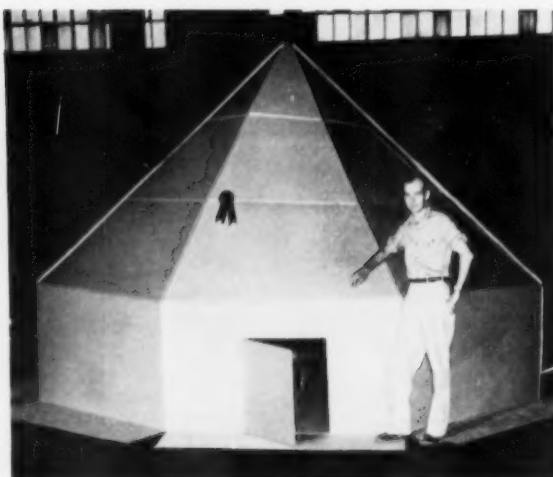
## Crane Co. and Gaylord Team Up for New Box

DEVELOPMENT of corrugated shipping containers for Crane's cast-iron enamelware began with the Crane Co.'s manufacturing plant in Chattanooga, Tenn. Wm. Nelson, materials handling engineer for Crane, submitted to Gaylord Container Corp. for packaging analysis, several items including three sizes of lavatories and two sizes of kitchen sinks. The initial package was made for the smallest of the three lavatories and was successfully tested at Gaylord's laboratory in St. Louis.



**PAPER CARRIES CAST-IRON ENAMELWARE.**  
Crane Co. of Chicago and Gaylord teamed together to develop this new use of paper.

**FIRST PRIZE WINNER** in military class in Fibre Box Assn. competition held in Chicago went to Gaylord Container Corp. for this expendable Arctic self-supporting Army shelter for 10 men. Made of water-resistant semi-chem kraft. Stapled flanges interlock 32 pieces.



This lavatory unit began a test shipping phase which carried it from St. Louis to Chicago to New Jersey to Chicago to St. Louis to Chattanooga. It was then recommended that this box be purchased and a test shipment started of 2500 units. Gaylord engineers devised jigs and fixtures to aid Crane in this change to paper. A large portion of the boxes were test-shipped with glued bottoms and taped tops, the balance were bottom-stitched and the tops glued. Results showed negligible

damage.

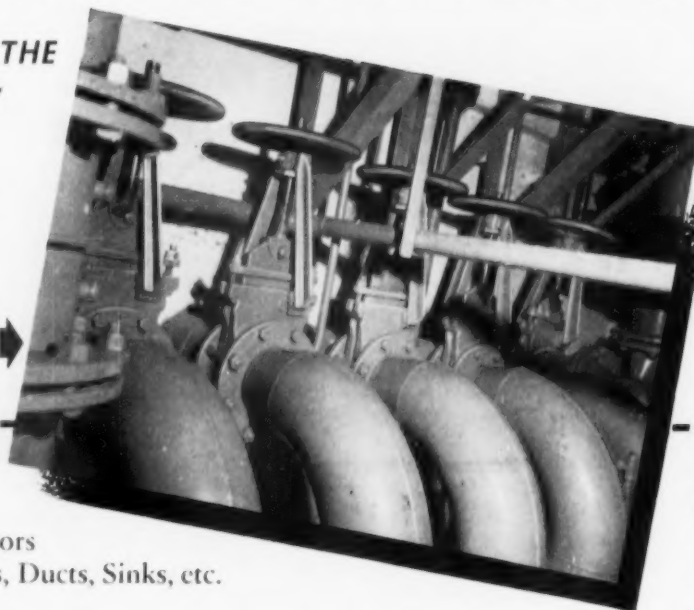
Identical tests led to use of larger lavatory units, and work is proceeding on a large all-corrugated container for a double sink.

Substantial savings have been realized through the adoption of paper packaging. Advantages of the smooth, sturdy paper surface has been pronounced. The warehousemen find they can handle a corrugated box more easily and safely. It was also learned the containers could be stacked 10 to 12 high.

## KELTON "Wafer" Stock Valves

**GIVE RELIABLE SERVICE TO THE  
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This group of wafer valves illustrated is a part of approximately 175 Kelton Wafer Stock Valves now in operation at St. Helens Pulp and Paper Company supplied by H. K. Equipment Co.



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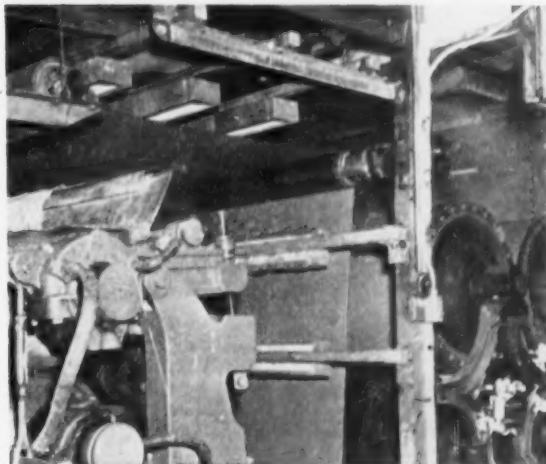
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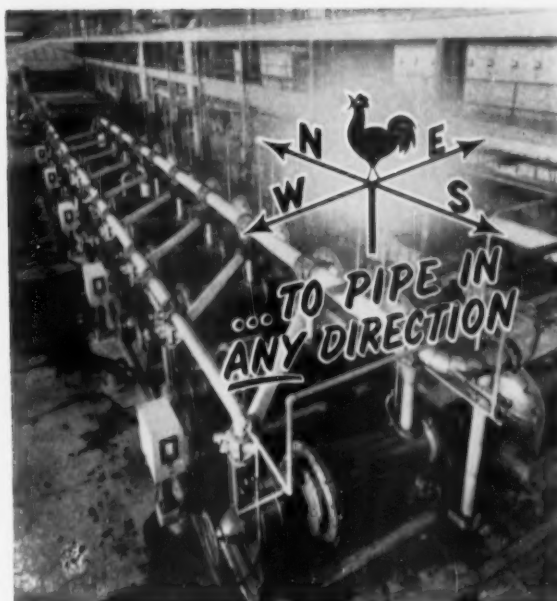
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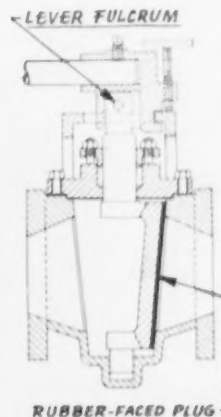
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**Red Ray Manufacturing Co., Inc.**  
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(six-ten thousand)



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The lever operated, tapered plug DeZurik Valve is designed to permit the plug to be unseated, rotated EASILY to the desired position, and resealed again in one smooth operation. The hinged lever does it! Raising the lever unseats the plug . . . and it turns easily to the desired position. Depressing the lever reseats the plug drip-tight!

DeZurik Easy-Operating 3-Way and 4-Way Non-Lubricated Valves are available in a full range of metals for all mill services. Write for complete data and recommendations.



**DeZURIK** SHOWER COMPANY Sartell, Minnesota

### Nopco Unveils New Technique for Additives

The Paper Chemicals Division of Nopco Chemical Co., Harrison, N.J., now offers an automatic and completely mechanical method for the accurately-measured feeding of additives of all types to the pulp and paper system called the Acumeter Synchronous Flow System, a new, patented technique developed by Acumeter Laboratories, Inc., Newton Lower Falls, Mass.

Acumeter system provides a three-fold saving: In storage facilities, in eliminating labor of mixing and handling and in material by feeding the additive with exact control.

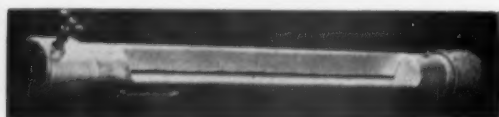


### The Subject Was Felts

(l. to r) JAMES E. SMITH, Assistant Sales Mgr., Albany Felt Co., G. LAMONT BIDWELL, Manager of Riegel Paper Corp., Milford, N. J., mill; GLENN

DRAKE, guest speaker on selling and WAYNE G. DAVIS, Albany Felt Vice President in charge of felt sales. Mr. Bidwell gave talk on "A Paper Mill Manager looks at Felt Performance" at recent Albany Felt semi-annual sales meeting.

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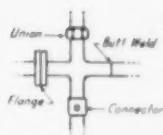
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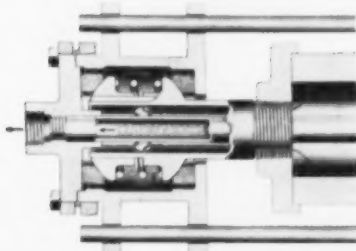
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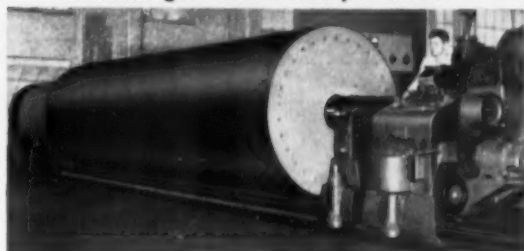
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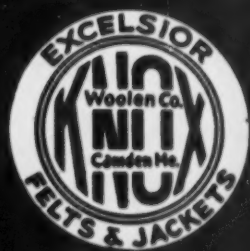
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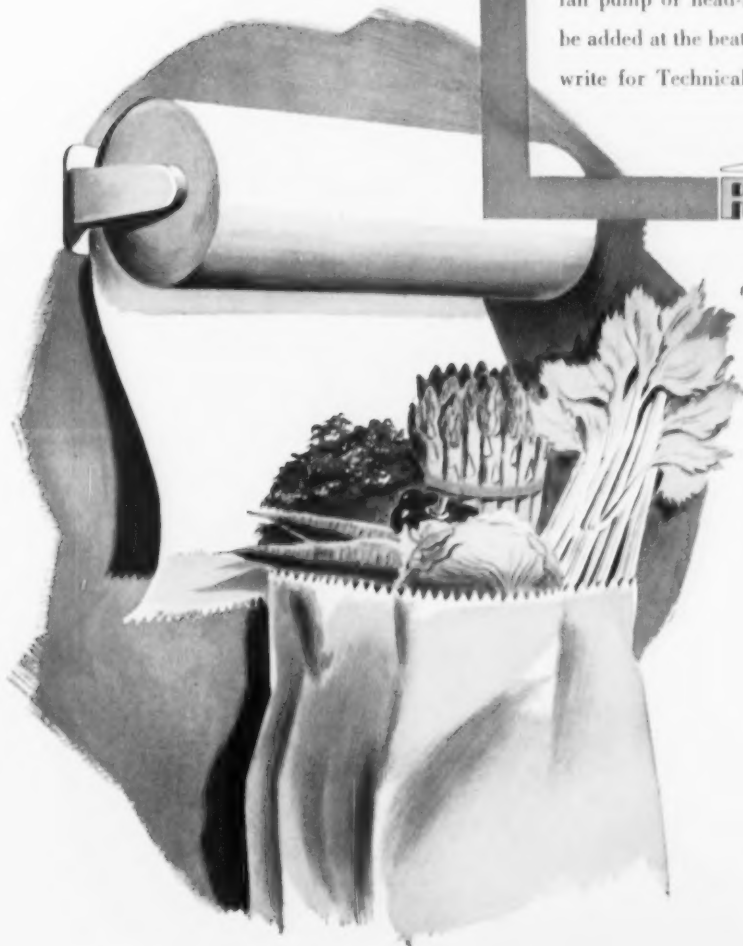
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